Installation and Operating Manual

Rotary lobe blower

HBC pr

Number: 9_9448 31 USE

Manufacturer:

KAESER KOMPRESSOREN SE

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1 Regarding this Document

1.1 Using this document

This document, hereafter called the service manual, contains important information about all life phases of the machine.

The operating manual is a component of the product. It describes the machine as it was at the time of first delivery after manufacture.

- ➢ Keep the service manual in a safe place throughout the life of the machine.
- ➢ Supply any successive owner or user with this service manual.
- ➢ Please insert any amendment or revision of the service manual sent to you.
- ➢ Enter details from the machine nameplate and individual items of equipment in the table in chapter 2.

1.2 Further documents

Included with this operating manual are additional documents intended to assist in the safe operation of the machine:

- ■ Manufacturer/installation declaration in accordance with applicable directives.

Missing documents can be requested from KAESER.

- ➢ Ensure that all documents are complete and observe the instructions contained within them.
- ➢ Ensure that you provide the data from the nameplate when ordering documents.

1.3 Copyright

1.4 Symbols and labels

- ➢ Please note the symbols and labels used in this document.

1.4.1 Warnings

Warnings indicate danger potentially resulting in personal injury, if the measures specified are not taken.

Warnings indicate three levels of danger identified by the corresponding signal word:

Signal term	Meaning	Consequences of non-compliance
DANGER	Warns of imminent danger	Will very likely result in death or severe injury
WARNING	Warns of potentially imminent danger	May result in death or severe injury
CAUTION	Warns of a potentially dangerous situation	May result in moderate physical injury

Tab. 1 Danger levels and their definition (personal injury)

Warning notes may precede a chapter. They apply to the entire chapter including all sub-sections.
Example:

⚠ DANGER
The type and source of the imminent danger is shown here!
The possible consequences of ignoring a warning are shown here.
The word "DANGER" indicates that death or severe injury can very likely result from ignoring the warning.
➢ *The measures required to protect yourself from danger are shown here.*

Warning notes referring to a sub-section or the subsequent step are integrated into the procedure and numbered as a step.
Example:

1. **⚠ WARNING** *The type and source of the imminent danger is shown here!*
   The possible consequences of ignoring a warning are shown here.
   The word "WARNING" indicates that death or severe injury may result from ignoring the warning.
   ➢ *The measures required to protect yourself from danger are shown here.*
2. Always read and comply with warning instructions.

1.4.2 Potential damage warnings

Contrary to the warnings shown above, damage warnings do not indicate potential personal injury.

Damage warnings have only one danger level, identified by this signal word:

Signal term	Meaning	Consequences of non-compliance
NOTE	Warns of a potentially dangerous situation	Damage to property is possible

Tab. 2 Danger levels and their definition (damage to property)

Example:

NOTICE
The type and source of the imminent danger is shown here!
Potential effects when ignoring the warning are indicated here.
➢ *The protective measures against the damages are shown here.*

➢ Carefully read and fully comply with warnings against damages.

1.4.3 Other alert notes and their symbols

This symbol indicates particular important information.

Material — Here you will find details on special tools, operating materials or spare parts.

Precondition — Here you will find conditional requirements necessary to carry out the task.

The conditional requirements relevant to safety shown here will help you to avoid dangerous situations.

Option H12 — ➢ This symbol is placed by lists of actions comprising one stage of a task.
Operating instructions with several steps are numbered in the sequence of the operating steps. Information relating to one option only are marked with an option code (e.g., H12 indicates that this section applies only to machines with sound enclosure). Option codes used in this operating manual are explained in chapter 2.2.

Information referring to potential problems are identified by a question mark.

The cause is specified in the help text ...

➢ ... as is a solution.

This symbol refers to important information or measures concerning environmental protection.

Further information — Further subjects are introduced here.

2 Technical Data

2.1 Nameplate

The machine's nameplate provides the model designation and important technical information.

The nameplate is attached to the machine stand and at the left side wall of the sound enclosure (Option H12).

The nameplate data relates to Standard intake state of 14.7 psi and 68 °F.

➢ Enter the data from the nameplate here as a reference.

Feature	Value
Rotary lobe blowers	
Material No.	
Serial No.	
Ambient temperature	
Rated motor power	
Max. working pressure PS	
Rated motor speed	
Full load current	
Full load current drive motor	
Power supply	
Electrical diagram	
Year of manufacture	

Tab. 3 Nameplate

2.2 Option codes

The table contains a list of possible options.

➢ Enter options here as a reference:

Option	Option code	Installed?
Operating mode: Gauge pressure	B13	✓
Oil level monitoring	C5	
Pressure switch	C9	
Speed monitor	C10	
Unloaded start valve (AFE)	C11	
Temperature gauge switch	C13	✓
Pressure transducer	C14	
Unloaded start valve with regulating valve (AFR)	C18	
Thermostat	C19	
Installed: ✓ Not available: —		

Option	Option code	Installed?
Under frequency control	C32	
Filter differential pressure switch	F5	
Check valve	G1	
Auxiliary heating	H2	
Outdoor installation	H3	
Intake from pipe network	H11	
Sound enclosure	H12	
Installed: ✓ Not available: —		

Tab. 4 Option codes

2.3 Weight

The values shown are maximum values. The actual weight of individual machines depends on equipment fitted.

Machine without sound enclosure

	Weight [lb]		
Rated power [hp]	HB 950 C pr	—	—
75.0	4762	—	—
100.0	5016	—	—
125.0	5236	—	—
150.0	5534	—	—
175.0	5875	—	—
200.0	6184	—	—
250.0	6625	—	—
—	—	—	—
—	—	—	—

Tab. 5 Weight without sound enclosure

Option H12 Machine with sound enclosure

	Weight [lb]		
Rated power [hp]	HB 950 C pr	—	—
75.0	6525	—	—
100.0	6780	—	—
125.0	7000	—	—
150.0	7300	—	—
175.0	7640	—	—
200.0	7950	—	—

	Weight [lb]		
Rated power [hp]	HB 950 C pr	—	—
250.0	8390	—	—
—	—	—	—
—	—	—	—

Tab. 6 Weight with sound enclosure

2.4 Drive motor

➢ Copy the data from the motor nameplate or service plate into the table:

Feature	Value
Enclosure protection	IP55
Motor bearing re-greasing interval *[h]	2000
Grease requirement, each bearing [g]	

h = operating hours

* The lubricating interval is max. 2000 h, even if a longer interval is indicated on the motor service plate.

Tab. 7 Drive motor

2.5 Recommended oil

The lubricant type to be used depends on the operating conditions.

	OMEGA FLUID	
	SB 220	FGB 220
Description	Synthetic oil	Synthetic oil
Application	Suitable for all applications, except food processing.	Specifically for applications where the compressed air comes into contact with food products.

Tab. 8 Recommended oil

Further information An adhesive label identifying the used lubricating oil is attached to the blower block and the belt guard.

Information on ordering oil is found in chapter 11.2.

2.6 Lubricating oil charge

The block oil chambers are filled with oil at the factory.

Guide value

	Drive-end	Gear-end
Lubricating oil charge [qt]	2.4 ±15%	3.4 ±15%

Tab. 9 Lubricating oil charge

2.7 Temperature

	HB 950 C pr	—
Maximum block discharge temperature [°F]	320	—
Maximum temperature differential [K] *	115	—
*Discharge temperature minus inlet temperature		

Tab. 10 Temperature

2.8 Ambient and intake conditions

The following conditions must be maintained:

- No salty atmosphere in the immediate vicinity of the machine.
- The air must be free of chemicals or explosive substances.

	HB 950 C pr	—
Permissible ambient temperature [°F]	23 – 104	—
Machine with connected auxiliary heating and sound enclosure (Options H2, H12) Permissible ambient temperature [°F]	5 – 104	—
Permissible intake temperature [°F]	5 – 104	—
Relative humidity [%]	0 – 80	—
Maximum altitude AMSL [ft.]	3281	—

Tab. 11 Ambient and intake conditions

For other ambient and intake conditions, please consult KAESER.

Further information The wiring diagram for Option H2 in chapter 13.5.8 contains further details of the power supply connection.

2.9 Filter maintenance indicator

Feature	Data
Indicator range [psi]	0 – 0.8

Tab. 12 Filter maintenance indicator

2.10 Pressure display

Feature	Data
Indicator range [psig]	0 – 23.2

Tab. 13 Pressure display

2.11 Sound pressure level/sound power level

Operating state LOAD under the following conditions:

- Nominal speed
- Nominal flow rate
- Nominal pressure

Measuring condition according to DIN EN ISO 2151 and basic standard ISO 9614–2:

- Measurement distance: 3 ft
- Tolerance: ±3 dB(A)
- Sound insulated pipeline

Further information

The sound pressure level and sound power level values for your machine are provided in the tables shown in chapter 13.3.

These values refer to the design condition.

2.12 Power Supply

Basic requirements

The machine is designed for an electrical supply according to National Electric Code (NEC), edition 2020, particularly article 670 and NFPA 79, edition 2021, particularly section 4.3. In the absence of any user-specified alternatives, the limits given in these standards must be adhered to. Consult manufacturer for any other specific power supply.

The incoming line within the control panel should be as short as possible.

If external sensors or communication lines are to be connected to the machine, use shielded cables and insert the same through EMC fittings into the control panel.

Three-phase

Do **NOT** operate package on any unsymmetrical power supply. Also do **NOT** operate package on power supplies such as a three phase WYE system with center point not solidly grounded or three-phase (open) delta.

The machine requires a symmetrical three-phase power supply transformer with a WYE configuration output as shown in Figure 1 and Figure 2. In a symmetrical three phase supply the phase angles and voltages are all the same.

Other power supplies are not suitable.

Fig. 1 Three-phase star (wye); 4 wire; center point solidly grounded

Fig. 2 Three-phase star (wye); 3 wire; center point solidly grounded

Further information Please contact an authorized KAESER service representative for options.

The electrical diagram 13.4 contains further specifications for electrical connection.

2.13 Power supply specifications

The following multi-strand copper core wires are given according to 2020 NEC 310.1, Table 310.15(B)(16) for 40 °C ambient temperature.

If other local conditions prevail, like for example high temperature, the cross section should be checked and adjusted according to 2020 NEC 110.14(C), 220.3, 310.15, Table 310.15(B)(2)(a), 430.6,430.22, 430.24, 670.4(A) and other local codes.

Dual element time delay fuses are selected according to 2020 NEC 240.6 , 430.52 and tables 430.52, 430.248 and 430.250.

We strongly suggest using a separate copper conductor for the equipment GROUNDING. 2020 NEC Table 250.122 will point out the “minimum size”, however, we recommend a ground conductor the same size as the power leads, if local codes allow.

2.14 Options

Technical data for the options available for your machine are given in the following.

2.14.1 Option C5 Oil level monitoring

Feature	Data
Max. voltage [V]	48
Switching current [A]	0.5
Switching capacity [hp]	0.03
Type of contact	Normally closed

Feature	Data
Protection class	IP67

Tab. 14 Oil level monitoring (Option C5)

Further information The wiring diagram for Option C5 in chapter 13.5 contains further details of the power supply.

2.14.2 Option C9 Pressure switch

Feature		Data
Max. contact load at 250 V [A]	Inductive load	0.5
	Resistive load	1.0
Protection (with cover, electrical connection upwards)		IP54

Tab. 15 Pressure switch (option C9)

Further information The wiring diagram for option C9 in chapter 13.5 contains further details of the power supply connection.

2.14.3 Option C10 Speed monitor

Sensor

Feature	Data
Rated switching distance Sn [in.]	0.04 – 0.12
Installation conditions	Not flush
Output function	DC PNP/NPN
Enclosure protection	IP 67
Connection	M12
Working principle	Inductive

Tab. 16 Speed monitoring sensor (Option C10)

Sensor

Feature	Data
Rated voltage [V]	110 – 240 AC/DC (50 – 60 Hz) / 27 DC (typ. 24 DC)
Contact load capacity	6 A (250 V AC); B300, R300
Power consumption [VA]	5
Start override [s]	0 – 1000
Ambient temperature [°F]	-4 – +140
Degree of protection - enclosure/terminals	IP 50 / IP 20

Feature	Data
Cable connection	up to 2.5 mm² (AWG 14)

Tab. 17 Speed monitoring device (Option C10)

Sensor setting

Feature	Data		
Display format	DIM=0 (rpm)		
Number of control caps, input 1	NC1=2		
Memory function outputs 1 and 2	SO1=0 (inactive)	SO2=0 (inactive)	
Switching function outputs 1 and 2 Analogue starting value for analogue output 3 [mA]	FO1=2	FO2=3	AO3=4.0
Switching point outputs 1 and 2 [rpm] Analogue starting value for analogue output 3 [rpm]	SP1=500	SP2=1000	FA3=1000
Hysteresis for switching points 1 and 2 [%]	HY1=3	HY2=5	
Start override time outputs 1 and 2 [s]	ST1=60.0	ST2=0.0	
Delay time outputs 1 and 2 [s]	DT1=10.0	DT2=0.0	
Wiping function outputs 1 and 2 [s]	FT1=0.0	FT2=0.0	

Tab. 18 Setting of the speed monitor evaluation device (Option C10)

Further information The wiring diagram for Option C10 in chapter 13.5 contains further details of the power supply connection.

2.14.4 Option C11 Unloaded start valve

Type	AFE 90	—
Permissible pressure [psi] (a)	0 – 29	—
Maximum flow rate [cfm]	3178	—
Nominal width of flange (DIN ISO 228–1)	DN 150 PN 10	—

Tab. 19 Unloaded start valve (option C11)

2.14.5 Option C13 Temperature gauge switch

Feature		Data
Switching capacity at 250 V(AC) [A] Single pole micro-switch with changeover contact	Inductive load	1.5
	Resistive load	5.0
Switching differential of the scale range [%]		<3

Feature		Data
Switching point tolerance [%] (of the scale range related to the cut-out point at rising temperature)		±5
Minimum voltage [V] [AC] Minimum current [mA] (Switching safety)		24 20
Enclosure protection	Front	IP 53
	Rear	IP 54

Tab. 20 Temperature gauge switch (Option C13)

Further information The electrical diagram for Option C13 in chapter 13.5 contains further details for the power supply connection.

2.14.6 Option C14 Pressure sensor

Feature	Data
Output signal [mA]	4 – 20
Parasitic energy [V]	U_B = DC 10 – 30
Permissible apparent resistance [Ohm]	$R_A = (U_B [V] - 10 V) / 0.02 A$
Enclosure protection	IP 65

Tab. 21 Pressure sensor (option C14)

Further information The wiring diagram for option C14 in chapter 13.5 contains further details of the power supply connection.

2.14.7 Option C18 Unloaded start valve with regulating valve

Type	AFR 45	—
Permissible pressure [psi] (a)	0 – 29	—
Maximum flow rate [cfm]	1589	—
Maximum pressure differential [psi]	13.8	—
Regulating range [psi]	2.9 – 13.8	—
Nominal width (DIN ISO 228–1)	G 4 A	—
Control line connection (DIN ISO 228–1)	R 1/8 A	—

Tab. 22 Unloaded start valve with regulating valve (Option C18)

2.14.8 Option C19, H12 Thermostat

Feature	Data
Spring switch with change-over contact	1–pole
Switching capacity NC contact (1–2)	AC 230 V / 2.5 A / cosϕ=0.6 AC 230 V / 16 A / cosϕ=1 DC 230 V / 0.25 A
Switching capacity NO contact (1-4)	AC 230 V / 2.5 A / cosϕ=0.6 AC 230 V / 6.3 A / cosϕ=1 DC 230 V / 0.25 A
Switching differential scale starting position [%]	6
Switching differential scale end position [%]	1.5
Enclosure protection	IP 54

Tab. 23 Thermostat (Option C19)

Further information The electrical diagram for Option C19 in chapter 13.5 contains further details for the power supply connection.

2.14.9 Option F5 Filter pressure differential switch

Feature	Data
Pressure differential, adjustable [psi]	0.04 – 0.73
Voltage [V]	(AC) eff., min. 10 (AC) max. 250 (DC) min. 12 (DC) max. 48
Rated current [A]	(AC) 10
Switching current	(AC) eff., min. 20 mA (AC) max. 6 A, cosφ = 1.0 (AC) max. 3 A, cosφ = 0.6 (DC) min. 20 mA (DC) max. 1 A
Enclosure protection	IP 54

Tab. 24 Filter pressure differential switch (Option F5)

Further information The electrical diagram for Option F5 in chapter 13.5 contains further details for the power supply connection.

2.14.10 Option G1 Check valve

Flange connection	Max. pressure and back pressure [psi]
DN 250	17.4

Tab. 25 Check valve (Option G1)

2.14.11 Option H2, H12 Auxiliary heating

Rated voltage [V]	115	208	230
Heating capacity [hp]	3x 0.21	3x 0.21	3x 0.21
Number of radiators	3	3	3

Tab. 26 Auxiliary heating (Option H2)

Thermostat

Feature	Data
Snap switch with change-over contact	1–pole
Switching capacity NC contact (1–2)	AC 230 V / 2.5 A / cosϕ=0.6 AC 230 V / 16 A / cosϕ=1 DC 230 V / 0.25 A
Switching capacity NO contact (1-4)	AC 230 V / 2.5 A / cosϕ=0.6 AC 230 V / 6.3 A / cosϕ=1 DC 230 V / 0.25 A
Switching differential scale starting position [%]	6
Switching differential scale end position [%]	1.5
Enclosure protection	IP 54

Tab. 27 Thermostatic auxiliary heating (Option H2)

Further information The wiring diagram for Option H2 in chapter 13.5 contains further details of the power supply connection.

2.14.12 Option H3, H12 Outdoor installation

Protection against lightning is the responsibility of the operator.

Material Stainless steel weather protection roof

➢ Note the maximum permissible loads. For example, for snow load zone 2 and wind load zone 2, see DIN EN 1991 Effects on structures - snow loads and wind loads

Deviating loads for outdoor installation may require design modifications and are only permissible following consultation with the manufacturer.

Further information The dimensional drawings in chapter 13.2 provide information regarding the necessary dimensions for outdoor installation.

2.14.13 Option H11 Piped inlet

The dimensional drawings in chapter 13.2 include connection dimensions.

2.14.14 Option H12 Sound enclosure

Set overload protection devices to 1.1 times nominal value.

Further information

See chapter 6.8.10.2 for the fan connection and chapter 13.5.9 for the connection wiring diagram.

Three-phase power supply

Rated power supply [V]	Δ–208/Y–360	Δ–220/Y–380	Δ–230/Y–400	Y–460	Y–575
Maximum delivery [cfm]	2060	2060	2060	2060	1942
Rated current ±10% [A]	0.72/0.42	0.97/0.56	0.73/0.42	0.41	0.33
Degree of protection	IP55	IP55	IP55	IP55	IP55

Tab. 28 Three-phase power supply (Option H12)

Single phase power supply

Rated power supply [V]	115	230
Maximum delivery [cfm]	2060	2060
Rated current ±10% [A]	2.60	0.98
Degree of protection	IP55	IP65

Tab. 29 Single-phase power supply (Option H12)

3 Safety and Responsibility

3.1 Basic instructions

The machine is manufactured to the latest engineering standards and acknowledged safety regulations. Nevertheless, dangers can arise through its operation:

- Danger to life and limb of the operator or third parties,
- Damages to the machine and other material assets.

⚠ Disregard of warning or safety instructions can cause serious injuries!

➢ Read the operating and installation manual carefully and take note of the contents for safe machine operation.

➢ Use this machine only if it is in a technically perfect condition and only for the purpose for which it is intended; observe all safety measures and the instructions in the service manual!

➢ Immediately rectify (have rectified) any faults that could be detrimental to safety!

3.2 Specified use

The machine is designed exclusively for the generation of pressure in a commercial or industrial environment where air (in the following "compressed air") as delivery medium is approved for use. Any other use is considered incorrect. The manufacturer is not liable for any damages that may result from incorrect use. The user alone is liable for any risks incurred.

➢ Comply with the instructions in this operating manual.

➢ Operate the machine only within its performance limits and under the permitted ambient conditions.

➢ Do not use compressed air for breathing purposes unless it is specifically treated.

➢ Do not use compressed air for any application that will bring it into direct contact with food products unless it is specifically treated.

➢ Operate the blower block only with inlet and outlet ports connected.

3.3 Improper use

Improper usage can cause damage to property and/or (severe) injuries.

➢ Only use the machine as intended.

➢ Never direct compressed air at persons or animals.

➢ Use hot cooling air for heating purposes only if there is no risk to the health of humans or animals. If necessary, hot cooling air should be treated by suitable means.

➢ Do not allow the machine to take in toxic, acidic, flammable, or explosive gases or vapors.

➢ Do not operate the machine in areas in which specific requirements with regard to explosion protection are in force.

➢ Intake of solid particles >0.004 inch is not permitted.

3.4 User's responsibilities

3.4.1 Observe statutory and universally accepted regulations

These are, for example, nationally implemented European directives and/or applicable national legislation, safety and accident prevention regulations.

➢ Observe relevant statutory and accepted regulations during installation, operation and maintenance of the machine.

3.4.2 Determining personnel

Suitable personnel are experts who, by virtue of their training, knowledge and experience as well as their knowledge of relevant regulations can assess the work to be done and recognize the possible dangers involved.

Authorized operating personnel possess the following qualifications:

- they are of legal age,
- are familiar with and adhere to the safety instructions and sections of the operating manual relevant to operation,
- they have received adequate training and authorization to operate electrical and compressed air devices,

Authorized installation and maintenance personnel have the following qualifications:

- they are of legal age,
- must have read, be familiar with and adhere to the safety instructions and sections of the operating manual applicable to installation and maintenance,
- are familiar with the safety concepts and regulations of electrical and compressed air engineering,
- are able to recognize the possible dangers of electrical and compressed air devices and take appropriate measures to safeguard persons and property,
- have received adequate training in and authorisation for the safe installation and maintenance of this machine.

➢ Ensure that personnel entrusted with operation, installation and maintenance are qualified and authorized to carry out their tasks.

3.5 Dangers

Basic instructions

Information concerning the various forms of danger that can arise during machine operation are found here.

Basic safety instructions are found in this service manual at the beginning of each chapter in the section entitled 'Safety'.

Warning instructions are found before a potentially dangerous task.

3.5.1 Safely dealing with sources of danger

The following describes the various forms of danger that can occur during machine operation.

Electricity

Touching voltage carrying components can result in electric shocks, burns or death.

- ➢ All power supplies must be fitted with lockable power supply disconnecting devices by the user.
- ➢ Allow only qualified and authorized electricians or trained personnel under the supervision of a qualified and authorized electrician to carry out work on electrical equipment according to electrical engineering regulations.
- ➢ Before commissioning or recommissioning the machine, the user must ensure adequate protection against electric shock from direct or indirect contact.
- ➢ Before starting any work on electrical equipment:
  Switch off and lock out the power supply disconnecting device and verify the absence of any voltage.
- ➢ Switch off any external power sources.
  These may be connections to the electric machine heating for example.
- ➢ Use fuses corresponding to machine power.
- ➢ Regularly check that all electrical connections are tight and in proper condition.

Forces of compression

Compressed air is contained energy. Uncontrolled release of this energy can cause serious injury or death. The following information concerns work on components that could be under pressure.

- ➢ Close shut-off valves or otherwise isolate the machine from the distribution network to ensure that no compressed air can flow back into the machine.
- ➢ Depressurize all pressurized components and enclosures.
- ➢ Allow no person or thing to remain near the blow-off valve during machine operation. In the event of operating pressure being exceeded, hot gas is blown off at high velocity and the valve tension rod is blown upward with great force.
- ➢ Do not carry out welding, heat treatment or mechanical modifications on pressurized components, as this influences the components' resistance to pressure.
  The safety of the machine is then no longer ensured.

Compressed air quality

The composition of the compressed air must be suitable for the actual application in order to preclude health and life-threatening dangers.

- ➢ Use appropriate systems for air treatment before using the compressed air from this machine as breathing air and/or for the processing of food products.
- ➢ Use food-grade lubricating oil whenever compressed air is to come into contact with food products.

Spring forces

Springs under tension or compression store energy. Uncontrolled release of this energy can cause serious injury or death.
Safety relief valve and unloaded-start valve are under powerful spring loading.

- ➢ Do not open or dismantle any valves.

Rotating components

Touching the fan wheel (sound enclosure) or the belt drive while the machine is running can result in serious injury.

- ➢ Do not remove separating protective installations when the machine is running.
- ➢ Switch off and lock out the power supply disconnecting device and verify the absence of any voltage.
- ➢ Wear close-fitting clothes and a hair net if necessary.
- ➢ Ensure that all covers and safety guards are in place and secured before restarting.

Temperature

High temperatures are generated during compression. Touching hot components may cause injuries.

- ➢ Avoid contact with hot components.
  These include, for example, blower blocks, silencers, oil and compressed air lines, motors, and machine heaters.
- ➢ Wear protective clothing.
- ➢ If welding is carried out on or near the machine, take adequate measures to prevent sparks or heat from igniting oil vapors or parts of the machine.

Noise

The sound enclosure reduces the machine noise to a tolerable level. This function will be effective only if the sound enclosure is closed.

- ➢ Wear hearing protection if necessary.
  The blowing off of the safety relief valve can be particularly loud.

Operating fluids/materials

The used operating fluids and materials can cause adverse health effects. Suitable safety measures must be taken in order to prevent injuries.

- ➢ Strictly forbid fire, open flame, and smoking.
- ➢ Follow safety regulations when dealing with oils, lubricants, and chemical substances.
- ➢ Avoid contact with skin and eyes.
- ➢ Do not inhale oil mist and vapors.
- ➢ Do not eat or drink while handling lubricants.
- ➢ Keep suitable fire extinguishing agents ready for use.
- ➢ Use only KAESER approved operating materials.

Unsuitable spare parts

Unsuitable spare parts compromise the safety of the machine.

- ➢ Use only spare parts approved by the manufacturer for use in this machine.
- ➢ Use only genuine KAESER replacement parts on pressure bearing parts.

Conversion or modification of the machine

Modifications, additions, or conversions of the machine can result in unpredictable dangers.

➢ Do not convert or modify the machine!

➢ Obtain written approval by the manufacturer prior to any technical modification or expansion of the machine, the controller, or the control programs.

Extending or modifying the compressor station

If dimensioned appropriately, safety relief valves reliably prevent an impermissible rise in pressure. New dangers may arise if you modify or extend the blower air station.

➢ If an air distribution network is to be extended or changed: Check the capacity of the blow-off valves before installing any new machines.

➢ Blow-off valves of insufficient capacity must be replaced by valves with higher capacity.

3.5.2 Safe machine operation

The following is information supporting you in the safe handling of the machine during individual product life phases.

Personal protective equipment

When working on the machine you may be exposed to dangers that can result in accidents with severe adverse health effects.

➢ Wear protective clothing as necessary.

Suitable protective clothing (examples):

- Safety work wear
- Protective gloves
- Safety boots
- Eye protection
- Ear protection

Transport

The weight and size of the machine require safety measures during its transport to prevent accidents.

➢ Use suitable lifting gear that conforms to local safety regulations.

➢ Allow transportation only by personnel trained in the safe movement of loads.

➢ Attach lifting gear only to suitable lifting points.

➢ Be aware of the center of gravity to avoid tipping.

➢ Make sure the danger zone is clear of personnel.

➢ Do not step onto machine components to climb up the machine.

Assembly

➢ Make sure no power is applied when electrical connections are made.

➢ Use only electrical cables that are suitable and approved for the surroundings and electrical loads applied.

➢ Never dismantle compressed air pipes until they are fully vented.

➢ Only use pressure lines that are suitable and approved for the maximum working pressure and the intended medium.

➢ Do not allow connection pipes to be placed under mechanical stress.

- ➢ Do not induce any forces into the machine via the connections, so that the compressive forces must be balanced by bracing.
- ➢ Do not step onto machine components to climb up the machine.

Installation

A suitable installation location for the machine prevents the potential for accidents and faults.

- ➢ Install the machine in a suitable compressor room.
- ➢ Ensure sufficient and suitable lighting such that the display can be read and work carried out comfortably and safely.
- ➢ Ensure accessibility so that all work on the machine can be carried out without danger or hindrance.
- ➢ If installed outdoors, the machine must be protected from frost, direct sunlight, dust, rain and splashing water.
- ➢ Do not operate in areas in which specific requirements with regard to explosion protection are in force.
- ➢ Ensure adequate ventilation.
- ➢ Place the machine in such a manner that the working conditions in its environment are not impaired.
- ➢ Comply with limit values for ambient temperature and humidity.
- ➢ The intake air must not contain any damaging contaminants,
  Damaging contaminants are for instance: explosive or chemically instable gases and vapors, acid or base forming substances such as ammonia, chlorine or hydrogen sulfide.
- ➢ Do not position the machine in the warm exhaust air flow from other machines.
- ➢ Keep suitable fire extinguishing agents ready for use.

Commissioning, operation and maintenance

During commissioning, operation and maintenance you may be exposed to dangers resulting from, e.g., electricity, pressure and temperature. Careless actions can cause accidents with severe adverse effects for your health.

- ➢ Allow maintenance work to be carried out only by authorized personnel.
- ➢ Wear close-fitting, flame-resistant clothing. Wear protective clothing as necessary.
- ➢ Switch off and lock out the power supply disconnecting device and verify the absence of any voltage.
- ➢ Check that there is no voltage on floating relay contacts.
- ➢ Close shut-off valves or otherwise isolate the machine from the distribution network to ensure that no compressed air can flow back into the machine.
- ➢ Depressurize all pressurized components and enclosures.
- ➢ Allow the machine to cool down.
- ➢ Do not open the sound enclosure while the machine is switched on.
- ➢ Do not open or dismantle any valves.
- ➢ Use only spare parts approved by KAESER for use in this machine.
- ➢ Carry out regular inspections:
  for visible damage,
  of safety installations,
  of the EMERGENCY STOP push button,
  of any components requiring monitoring.

- ➢ Pay particular attention to cleanliness during all maintenance and repair work. Cover components and openings with clean cloths, paper or tape to keep them clean.
- ➢ Do not leave any loose components, tools or cleaning rags on or in the machine.
- ➢ Components removed from the machine can still be dangerous.
  Do not attempt to open or destroy any components taken from the machine.

Decommissioning, storage and disposal:

Improper handling of old operating fluids and components represent a danger for the environment.

- ➢ Drain off fluids and dispose of them according to applicable environmental regulations.
  These include, for example, lubricating oil.
- ➢ Dispose of the machine in accordance with local environmental regulations.

3.5.3 Organizational measures

- ➢ Designate personnel and their responsibilities.
- ➢ Give clear instructions on reporting faults and damage to the machine.
- ➢ Give instructions on fire reporting and fire-fighting measures.

3.6 Danger areas

The table gives information on areas dangerous to personnel.

Only authorized personnel may enter these areas.

Function	Danger area	Authorized personnel
Transporting	Within a 10 ft radius of the machine.	Installation personnel for transporting preparation. No personnel during transporting.
	Beneath the lifted machine.	No personnel!
Installation	Within the machine. Within 3 ft radius of the machine and its power supply cables.	Installation personnel
Operation	Within a 3 ft radius of the machine.	Operating personnel
Maintenance	Within the machine. Within a 3 ft radius of the machine.	Maintenance personnel

Tab. 30 Danger areas

3.7 Safety devices

Various safety devices ensure safe working with the machine.

- ➢ Do not change, bypass or disable safety devices.
- ➢ Check safety devices for correct function regularly.
- ➢ Do not remove or obliterate labels and notices.
- ➢ Ensure that labels and notices are clearly legible.

Further information More information on safety devices is contained in chapter 4, section 4.4.

3.8 Safety signs

The diagram shows the location of the safety signs on the machine. Table 31 lists the various safety signs used and their meanings.

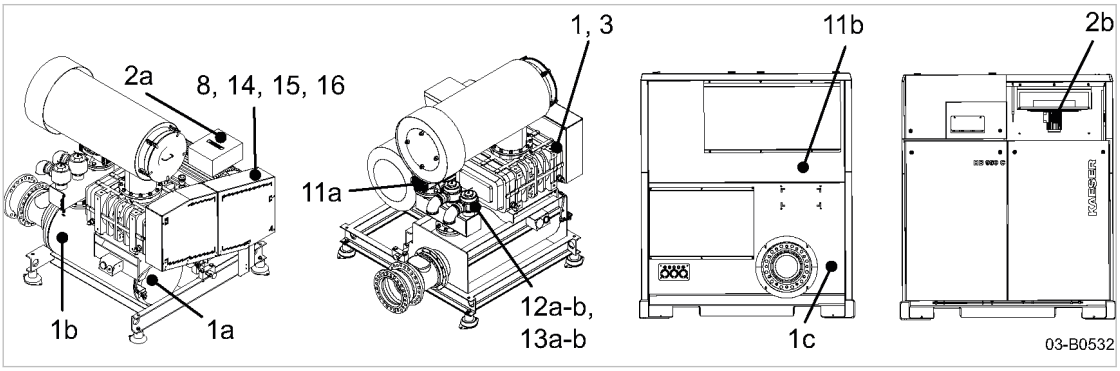


Fig. 3 Location of the safety signs at the machine

Options

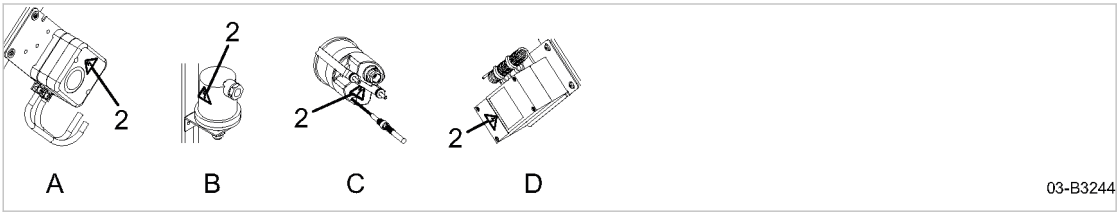


Fig. 4 Safety sign position, electronically actuated options

- Ⓐ Filter differential pressure switch (Option F5)
- Ⓑ Pressure switch (Option C9)
- Ⓒ Temperature display with switching point (Option C13)
- Ⓓ Thermostat (Option C19)

Fig. 5 Safety sign position, auxiliary heater, Option H2

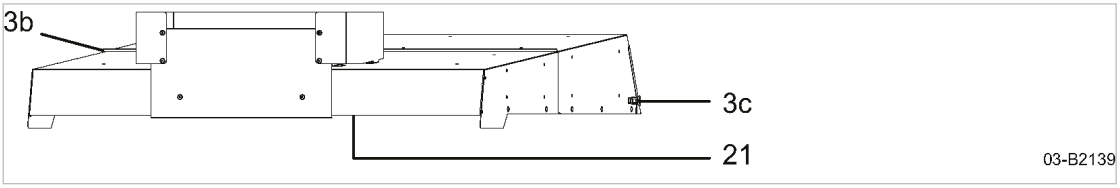


Fig. 6 Safety sign position, outdoor installation, Option H3

Location	Symbol	Meaning
1 1a 1b 1c		Hot surface can cause burns! ➢ Let the machine cool down. ➢ Wear long-sleeved garments (not synthetics such as polyester) and protective gloves.

Location	Symbol	Meaning
2 2a 2b		Danger of fatal injury from touching electrically live components! ➢ Switch off and lock out/tag out the power supply disconnecting device and verify the absence of voltage before opening any machine enclosure or guard.
3		Rotating rotors! Risk of serious lacerations or even severing of extremities (fingers) from rotating components. ➢ Operate the machine only when a connection is made to the inlet port. ➢ Switch off and lock out/tag out the power supply disconnecting device and verify the absence of voltage before opening any machine enclosure or guard.
3b 3c		Injuries (to the hands in particular) due to shearing effects! ➢ Carefully close the flap in the weather protection roof (Option H3). ➢ Always wear protective gloves.
8		Personal injury or damage to the machine by incorrect operation! ➢ Read and understand the service manual and all safety signs before switching on this machine.
11a 11b		Hot gas! Risk of burning from contact with hot gasses. ➢ Do not enter danger zone. ➢ Wear long-sleeved garments (not synthetics such as polyester) and protective gloves.
12a 12b		Serious injury or death can result from loosening or opening component that is under pressure and heavily spring loaded! ➢ Do not open or dismantle the valve. ➢ Contact an authorized KAESER service representative if a fault occurs.
13a 13b		Serious injury or death can result from loosening or opening component that is under pressure and heavily spring loaded! ➢ Depressurize all pressurized components and enclosures. ➢ Ensure the machine remains depressurized. ➢ Check that machine is depressurized.
14		Severe injury could result from touching the v-belt drive while it is rotating! ➢ Switch off and lock out/tag out the power supply disconnecting device and verify the absence of any voltage before opening any machine enclosures or guard.
15		Injury and/or contamination can result from breathing compressed air! Contamination of food can result from using untreated compressed air for food processing! ➢ Never breathe untreated compressed air. ➢ Air from this compressor must meet OSHA 29CFR1910.134 and FDA 21CFR178.3570 standards, if used for breathing or food processing. Use proper compressed air treatment.

Location	Symbol	Meaning
16		Wear hearing protection! ➢ Noise from running machine (without sound enclosure). ➢ Loud noise if any part of the sound enclosure (Option H12) is open while the machine is running.
21		Risk of Impact! Potential risk of head injuries when closing the hatch. ➢ Wear proper head protection when the hatch is open.

Tab. 31 Safety signs

3.9 In emergency

3.9.1 Correct fire fighting

Suitable extinguishing agents

- Foam
- Carbon dioxide
- Sand or dirt

Unsuitable or unsafe extinguishing agents

- Strong jet of water

1. Keep calm.
2. Give the alarm.
3. Switch off the power supply disconnecting device, if possible.
4. Move to safety.
   - Warn persons in danger.
   - Help incapacitated persons.
   - Close the doors.
5. Try to extinguish the fire if you have the skill to do so.

3.9.2 Remove lubricating oil from the skin.

➢ Eye contact:
Rinse eyes thoroughly with lukewarm water and seek medical assistance.

➢ Skin contact:
Wash off immediately.

3.10 Environmental protection

➢ Store and dispose of operating materials and replaced parts in accordance with local environmental protection regulations.

➢ Observe national regulations.
This applies particularly to parts contaminated with lubricating oil.

➢ Do not allow lubricating oil to escape to the environment or into the sewage system.

3.11 Warranty

This operator manual contains no independent warranty commitment. Our general terms and conditions of business apply with regard to warranty.

A condition of our warranty is that the machine is used for the purpose for which it is intended under the conditions specified.
Due to the multitude applications for which the machine is suitable the obligation lies with the user to determine its suitability for his specific application.

In addition, we accept no warranty obligation for:

- the use of unsuitable parts or operating materials,
- unauthorized modifications,
- incorrect maintenance,
- incorrect repair.

Correct maintenance and repair includes the use of original spare parts and operating materials.

➢ Obtain confirmation from KAESER that your specific operating conditions are suitable.

4 Design and Function

4.1 Machine

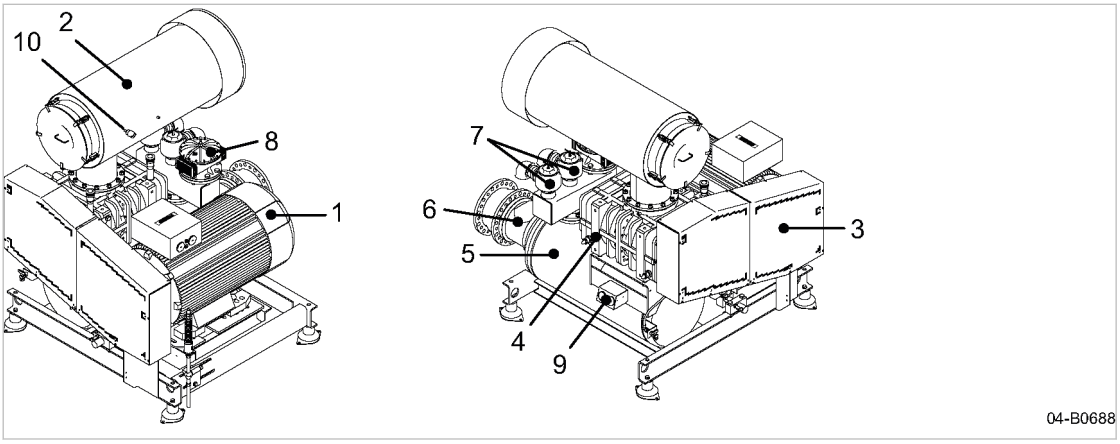


Fig. 7 Machine

[1]	Drive motor	[6]	Check plate (Option G1)
[2]	Inlet silencer	[7]	Safety valve
[3]	Belt guard	[8]	Unloaded start valve or start-up pressure control valve (Option C11, C18)
[4]	Blower block	[9]	Display gauge
[5]	Outlet silencer	[10]	Filter maintenance indicator

The drive motor [1] drives the blower block [4] via a belt drive.

Air is drawn into the inlet silencer [2] and through an air filter where it is cleaned.

The air is then pushed from the blower block in a vertical direction into the outlet silencer [5], where the process induces pressure build-up.

4.2 Blower block

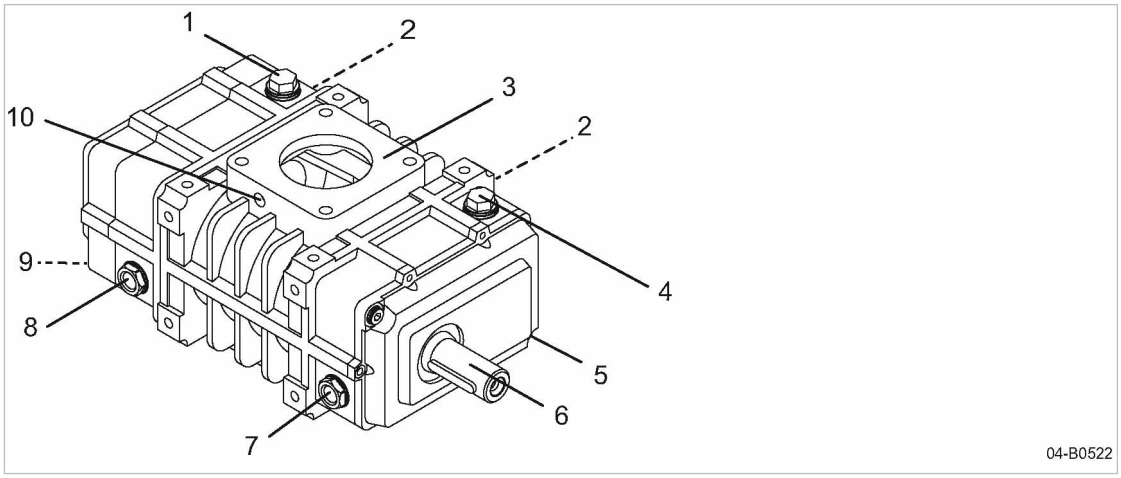


Fig. 8 Blower block

1 Gear-end oil inlet
2 Side gas drainage (closed)
3 Flange connection (both sides)
4 Drive-end oil inlet
5 Drive-end oil drain
6 Drive shaft
7 Drive-end oil sight glass
8 Gear-end oil sight glass
9 Gear-end oil drain
10 Connection for measuring instrument (both sides)

A pair or rotors with intermeshing lobes turn in opposite directions within a casing. The rotors are synchronized by timing gears on one end. Air in the block inlet is trapped between the rotor lobes and the casing and moved round to the discharge port.

As there is no contact between the rotors themselves and the casing, oil film lubrication is not required.

4.3 Safety relief valve

The safety relief valve (blow-off valve) protects the system from excessive pressure. It is factory set.

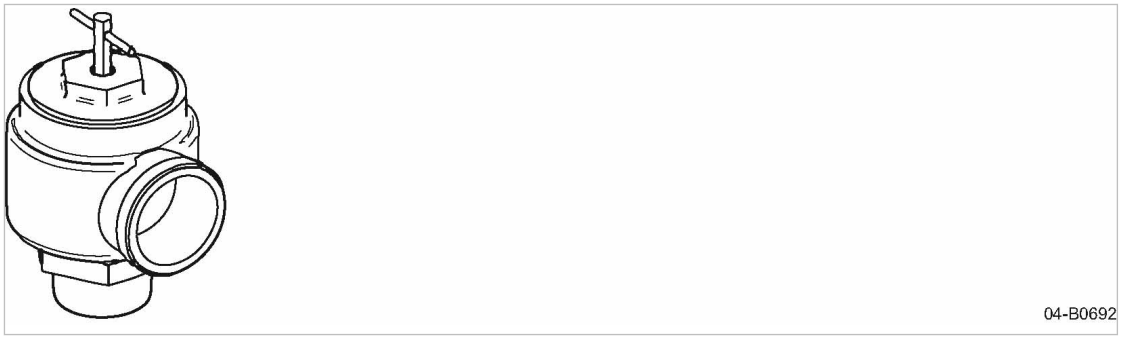


Fig. 9 Safety relief valve (blow-off valve)

4.4 Safety devices

The following safety devices are provided and may not be modified in any way.

- Safety relief valve:
  The safety relief valve protects the machine from excessive pressure build-up. It is factory set.
- Covers over moving parts and electrical connections:
  These protect against accidental contact.

4.5 Compensator

The compensator functions as follows:

- Inlet and outlet connections to silencers and accessories,
- Isolates the machine vibrations from the air pipeline.

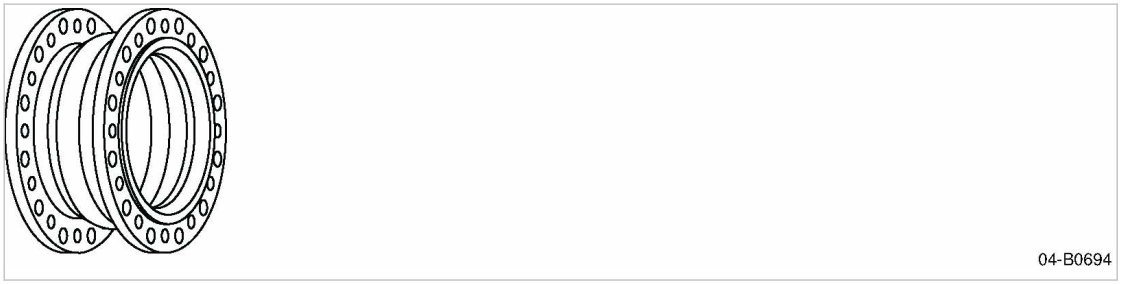


Fig. 10 Compensator

4.6 Filter maintenance indicator

The maintenance indicator shows when the filter needs maintenance. When the filter becomes clogged and flow resistance rises to a set point, the maintenance signal is given.

4.7 Pressure gauge

The pressure gauge shows the pressure in the blower block discharge port.

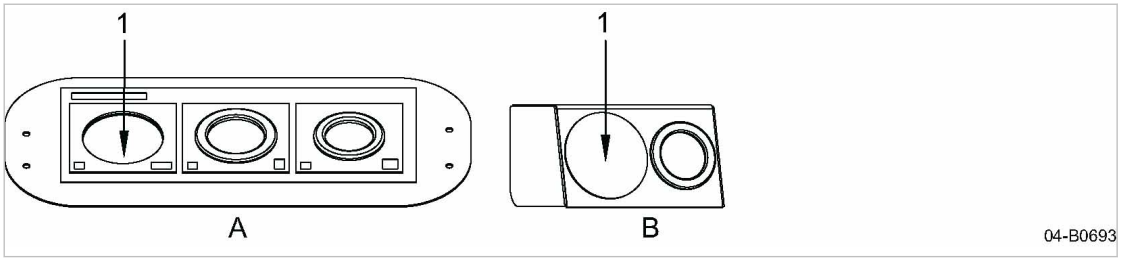


Fig. 11 Location of the pressure gauge

[A] Machine with sound enclosure
[B] Machine without sound enclosure
[1] Pressure gauge

4.8 Floating relay contacts

Potential-free contacts for the transmission of messages are provided.
For information on location, loading capacity, and message type please see electrical wiring diagrams options in Chapter 13.5.

If the floating relay contacts are connected to an external voltage source, voltage may be present even when the machine is isolated from the power supply.

4.9 Options

The options available for your machine are described below.

4.9.1 Option C5 Oil level monitor

This device monitors the level of lubricating oil in the blower block.
This electronic monitoring does not relieve the obligation to make regular manual checks of the oil level.

Functional description

Two float-type level sensors monitor the level of oil in the drive and gear-end oil chambers. If the oil level falls below the minimum level, a switching contact is opened. The resulting signal is interpreted by external components provided by the user.

4.9.2 Option C9 Pressure switch

The pressure switch sends a signal when the set pressure is exceeded.

The pressure switch is factory set according to the customer's specification.
In other cases it must be set according to the application.

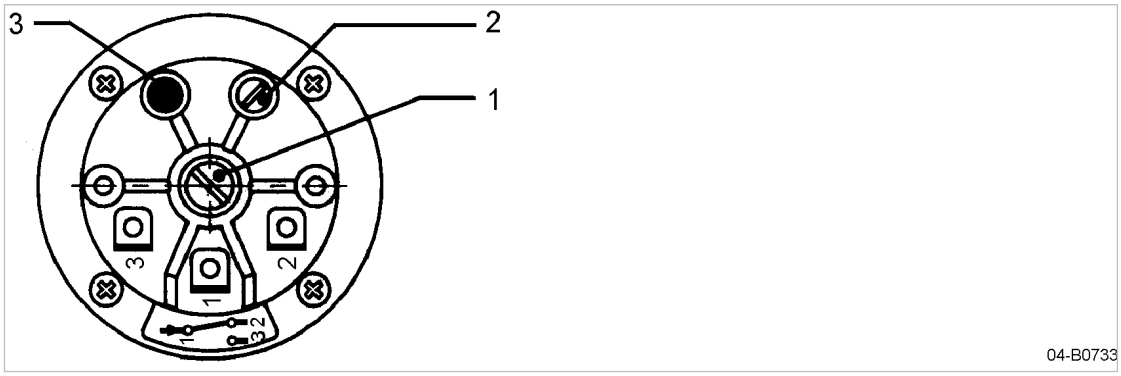


Fig. 12 Pressure switch

1 Switching point adjusting screw
2 Switching differential adjusting screw
3 Screw sealed with a protective coating

The switching point can be adjusted by the screw 1 while the machine is running.

Fine adjustment and switching differential is set with the adjusting screw [2].

The screw [3] is sealed with a protective coating. It is not to be adjusted.

4.9.3 Option C10 Speed monitor

The speed monitor measures the rotational speed of the blower block.

4.9.4 Option C11 Unloaded start valve

The unloaded start valve prevents the machine starting against a load in the star-delta phase. The valve closes when the motor starter switches from star (Y) to delta (Δ).

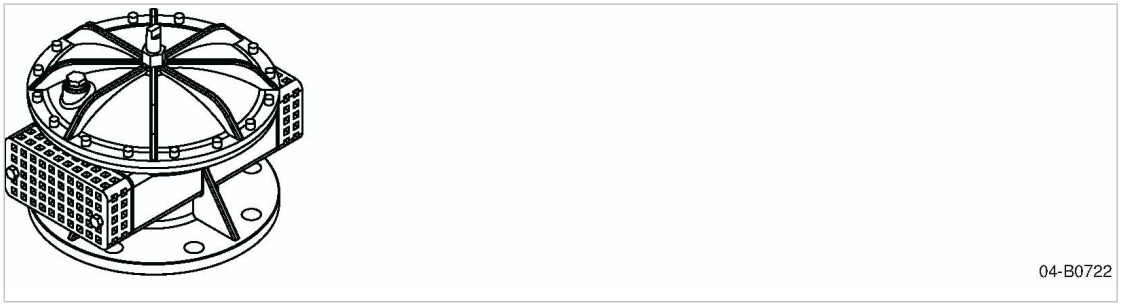


Fig. 13 Unloaded start valve

The unloaded start valve is factory set.

Functional description

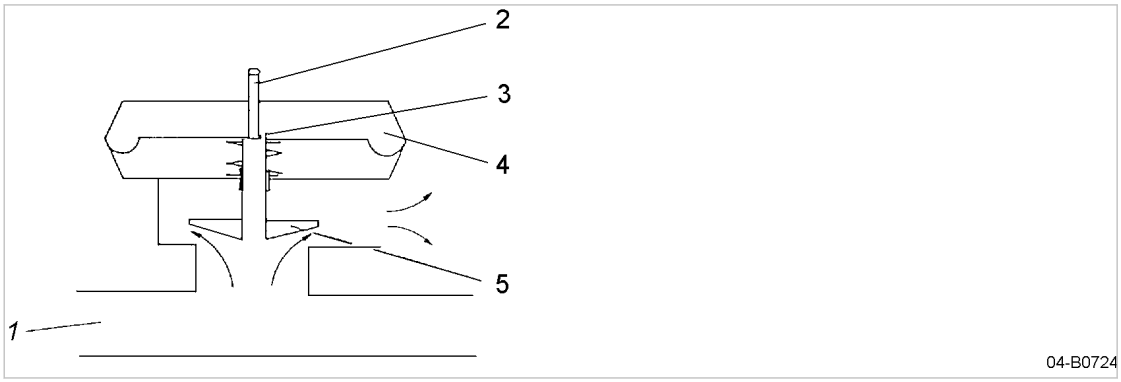


Fig. 14 Diagram of the unloaded start valve

[1] Air network
[2] Adjusting screw
[3] Nozzle
[4] Diaphragm chamber
[5] Valve cone

When the machine is shut down the valve cone [5] is open.

When the machine is started, air passes through the blow-off aperture to atmosphere.

Screwing in the adjusting screw [2] reduces the gap between the valve cone [5] and its seating so that it closes at a lower flow rate.
(1.5 psig pressure is needed in the network to close the valve cone [5])

Back pressure enters through the nozzle [3] into the upper diaphragm chamber [4] to close the valve cone. The closing time can be influenced by changing the position of the valve cone with the adjusting screw [2].

Changing the closing time with the adjusting screw:

- Clockwise - shorter closing time
- Counterclockwise - longer closing time

4.9.5 Option C13 Temperature gauge switch

The gauge shows the temperature in the block discharge port and has a floating relay changeover contact that can be set to switch at a selected temperature.

The switching point is factory set to 293 °F.

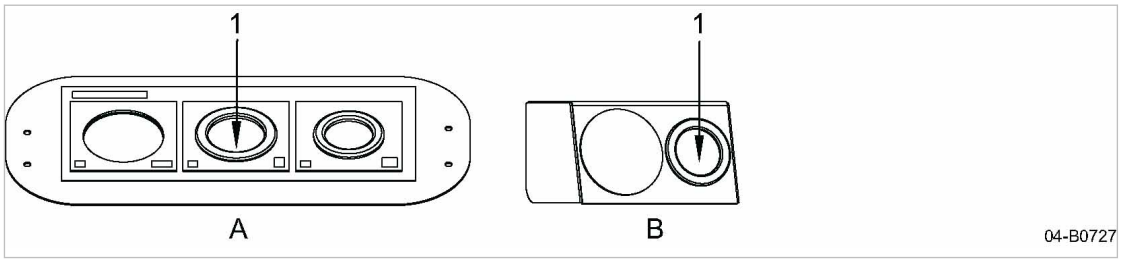


Fig. 15 Location of the temperature gauge

[A] Display: Machine with sound enclosure (Option H12)
[B] Display: Machine without sound enclosure
[1] Temperature gauge

Setting instructions

The switching point can be adjusted by means of the screw beneath the protective cover on the front plate.

Possible adjustment for working conditions on site:

- Block discharge temperature lower than 293 °F
  - If the average block discharge temperature is significantly lower than 293 °F, the gauge switching point can be adjusted down.
    The recommended switching point is the average block discharge temperature plus +15 K.
- Block discharge temperature higher than 293°F
  - If the average block discharge temperature is near to or higher than 293 °F,
    adjust the switching point upward.
    The maximum permissible value is 311 °F.

4.9.6 Option C14 Pressure sensor

The sensor measures the actual block discharge pressure.

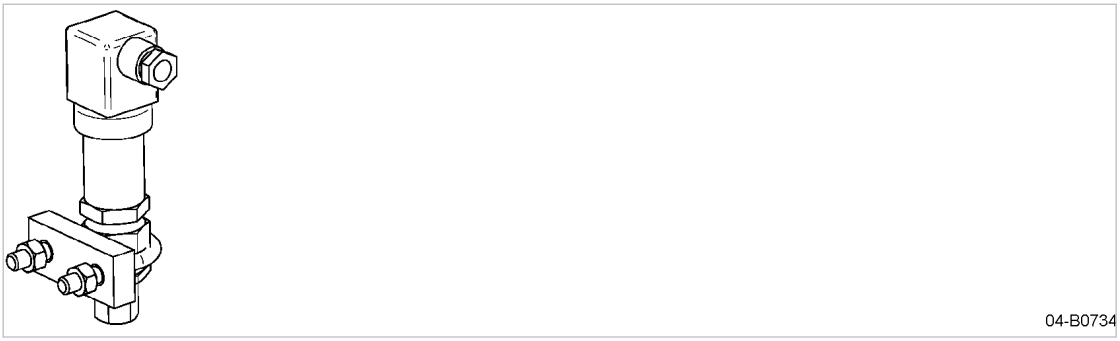


Fig. 16 Pressure sensor

4.9.7 Option C18 Unloaded start valve with regulating valve

The unloaded start valve with regulating valve is a medium-controlled valve with the following functions:

- Unloaded starting
- Pressure regulating during operation

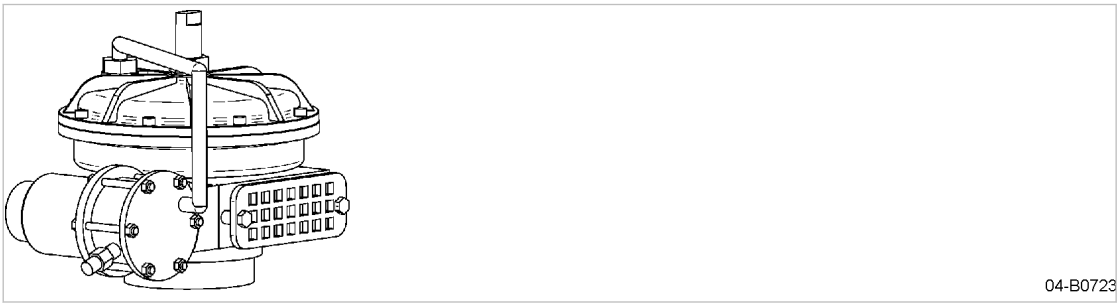


Fig. 17 Unloaded start valve with regulating valve

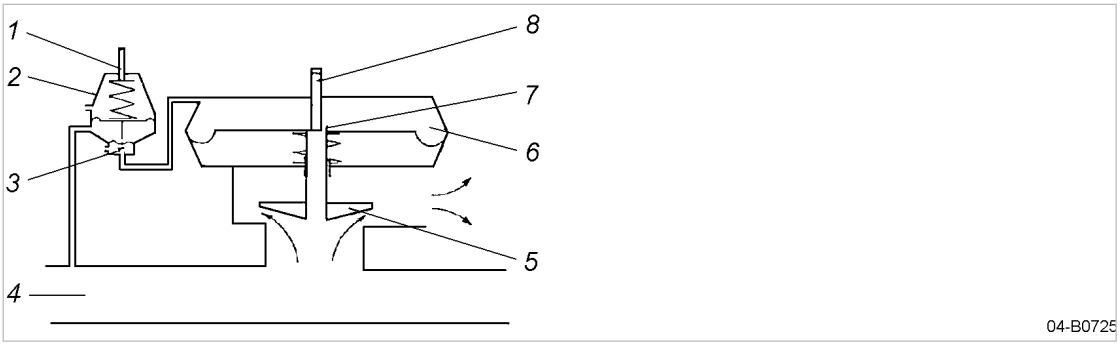


Fig. 18 Diagram of the unloaded start valve with regulating valve

[1]	Adjusting screw	[5]	Valve cone
[2]	Control air regulator	[6]	Diaphragm chamber
[3]	Valve cone	[7]	Nozzle
[4]	Air network	[8]	Adjusting screw

Unloaded starting

When the machine is stopped the valve cone [5] is open and valve cone [3] closed. When the machine is started, air flows over the valve cone [5] and is blown off to atmosphere. The pressure build-up in the air network [4] is transmitted through the hollow spindle and nozzle [7] into the upper diaphragm chamber [6]. The resulting pressure on the diaphragm closes the valve cone [5].

Changing the closing time:
The valve closing time can be adjusted by changing the nozzle [7] and turning the adjusting screw [8].

- Clockwise: shorter closing time
- Counterclockwise: longer closing time

The unloaded start function only works if the pressure in the air network [4] reaches at least 1.45 psig.

Overflow regulation

The control air regulator is set to atmospheric pressure.

After starting, the network pressure and the pressure on the control air regulator [2] rises. As soon as the set network pressure is reached the valve cone [3] opens. Pressure in the upper diaphragm chamber [6] bleeds off to atmosphere and the valve cone [5] opens.

The set network pressure is kept constant.

Changing the pressure setting:
Remove the rubber cap from the control regulator to change network pressure. Undo the locknut and adjust the screw with a screwdriver.

- Clockwise: lower pressure
- Counterclockwise: higher pressure

Lock the screw in position after adjusting and replace the rubber cap.

4.9.8 Option C19, H12 Thermostat

The thermostat controls the temperature within the sound enclosure.
It consists of a temperature sensor with a floating relay change-over contact.

The switching point is factory set to 140°F.

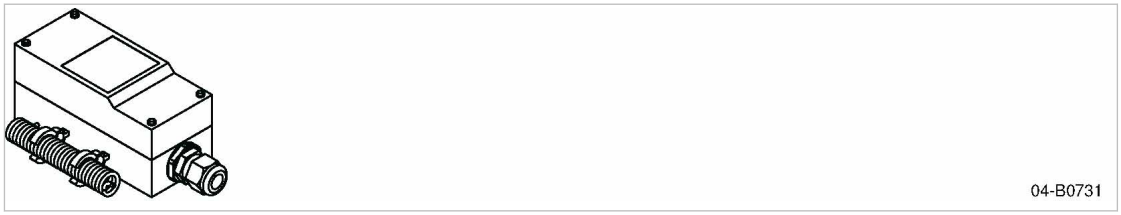


Fig. 19 Thermostat

4.9.9 Option F5
Filter pressure differential switch

The filter pressure differential switch monitors contamination of the intake filter.

The switch is triggered by pressure differential. Falling below or rising above the set value causes the current flow to switch on, switch off or changeover according to how the switch is wired.

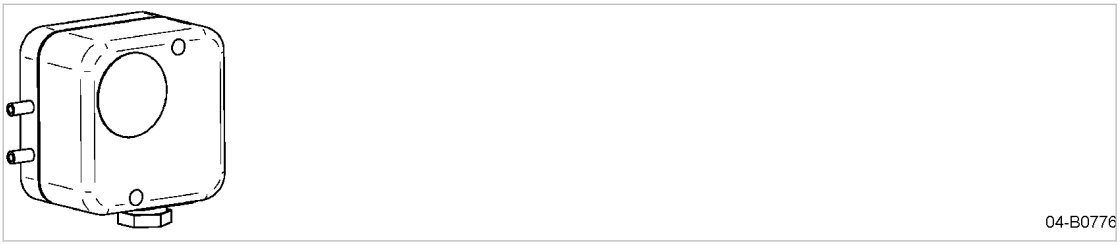


Fig. 20 Filter pressure differential switch

Pressure connection diagram

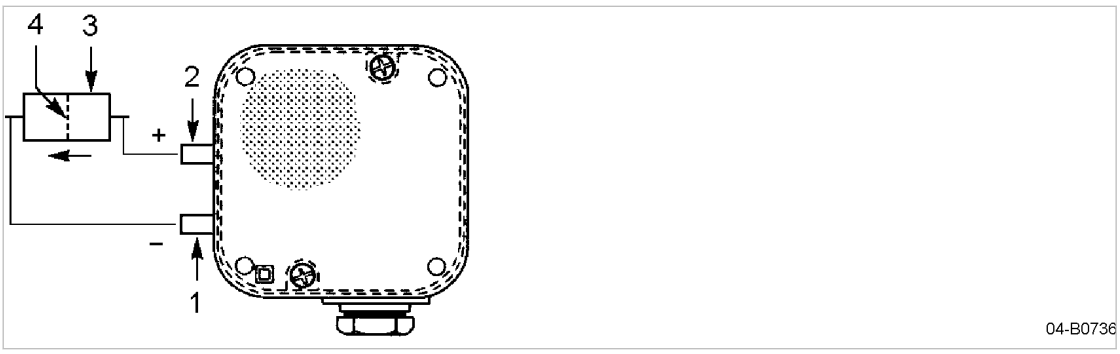


Fig. 21 Pressure connection to the filter pressure differential switch

[1] Low pressure connection
[2] Higher pressure connection
[3] Inlet silencer
[4] Filter

Switching function

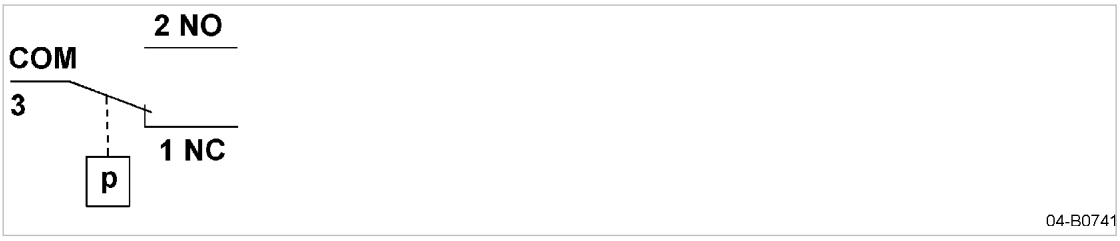


Fig. 22 Filter pressure differential switch function

Switching with rising pressure:

- 1 NC opens
- 2 NO closes

Switching with falling pressure:

- 1 NC closes
- 2 NO opens

4.9.10 Option G1 Check valve

The check valve prevents a reversal of the normal air flow direction.
The valve is closed when the machine is at standstill.

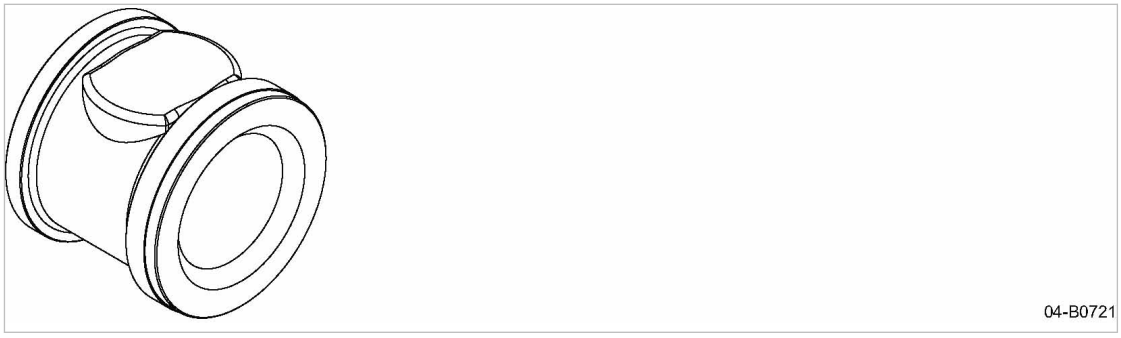


Fig. 23 Check valve

4.9.11 Option H2, H12 Auxiliary heating

The auxiliary heating has the following functions:

- Prevents condensation forming on the machine in climates of high humidity.
- Pre-warms the machine when ambient temperatures are below 23°F.

The auxiliary heating is designed to raise the machine temperature to about 50°F.

The thermostat switching point is factory set to 41°F.

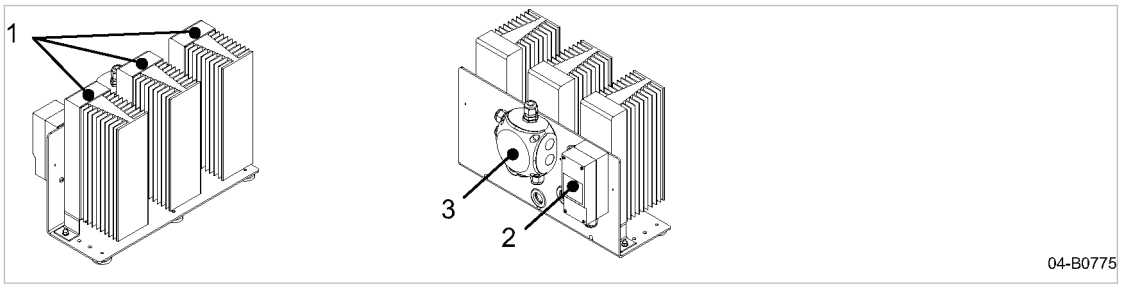


Fig. 24 Auxiliary heating

[1] Radiator
[2] Thermostat
[3] Terminal box

4.9.12 Option H3, H12 Outdoor installation

The sound enclosure (Option H12) is fitted with a weather protection roof.

Should the machine be installed outdoors, the instruments and the parts of the sound enclosure within the cover area are protected against direct sunlight, rain, wind and snow.

Further information — Information regarding the maximum permissible snow and wind loads can be found in chapter 2.14.12

4.9.13 Option H11 Piped inlet

Air is drawn into the block through the inlet silencer.

4.9.14 Option H12 Sound enclosure

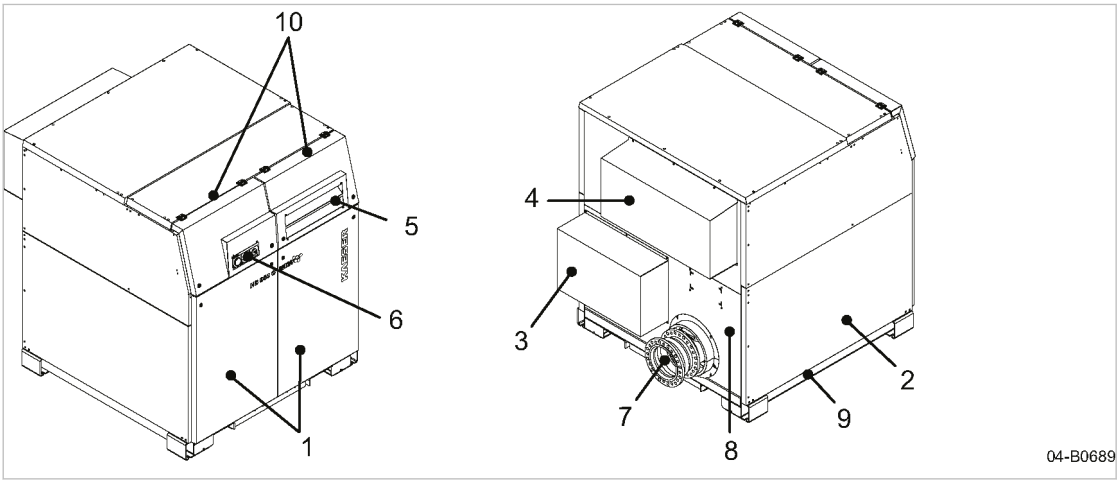


Fig. 25 Sound enclosure overview

1 Removable access panel
2 Side panel
3 Cooling air inlet
4 Intake air inlet
5 Cooling air outlet
6 Display (option)
7 Pressure line connection
8 Rear panel
9 Frame
10 Shutters

The drive motor fan draws cooling air through the cooling air inlet 3 into the sound enclosure to cool the drive motor and the machine.

Cooling air flow is boosted by a fan within the sound enclosure. The warm air is expelled to the exterior in order to prevent the machine from overheating.

Air to be compressed is drawn in through the intake air inlet 4. This ensures that only air at ambient temperature is compressed.

The sound enclosure has a removable access panel 1 and the shutters 10 can be opened.

Latches are released by a key supplied with the machine.

The sound enclosure has several functions when it is closed:

- Sound insulation
- Protection against contact with components
- Airflow control

The sound enclosure is not suitable for the following uses:

- Walking on, standing on or sitting on.
- Use as a resting place or storage of any kind of load.

5 Installation and Operating Conditions

5.1 Ensuring safety

The conditions in which the machine is installed and operated have a decisive impact on safety.

Warning instructions are located before a potentially dangerous task.

Disregard of warning instructions can cause serious injuries!

Complying with safety instructions

Disregard of safety warnings can cause unforeseeable dangers!

- ➢ Strictly forbid fire, open flame and smoking.
- ➢ If welding is carried out on or near the machine, take adequate measures to prevent sparks or heat from igniting oil vapors or parts of the machine.
- ➢ Do not store flammable material in the vicinity of the machine.
- ➢ The machine is not explosion-proof!
  Do not operate in areas in which specific requirements with regard to explosion protection are in force.
- ➢ Ensure sufficient and suitable lighting such that the display can be read and work carried out comfortably and safely.
- ➢ Keep suitable fire extinguishing agents ready for use.
- ➢ Comply with the permissible ambient and intake conditions.
- ➢ Ensure the correct composition of the intake air:
  - Clean with no damaging contaminants (e.g., dust, fibers, fine sand).
  - Free of explosive or chemically unstable gases or vapors.
  - Free of acid/alkaline forming substances, particularly ammonia, chlorine or hydrogen sulfide.

Noise

The sound enclosure absorbs and reduces the machine noise to a comfortable level. This function will be effective only if the sound enclosure is closed.

- ➢ If necessary, wear hearing protection or take hearing protection measures on-site.

5.2 Installation conditions

5.2.1 Determining location and clearances

The machine is intended for installation in an appropriate machine room. Information on distances from walls and ventilation is given below.

The distances quoted are recommended distances and ensure unhindered access to all machine parts.

- ➢ Please consult an authorized KAESER service representative if you cannot comply with these recommendations.

Precondition The floor must be level, firm, and capable of bearing the weight of the machine.
No special foundation is necessary.

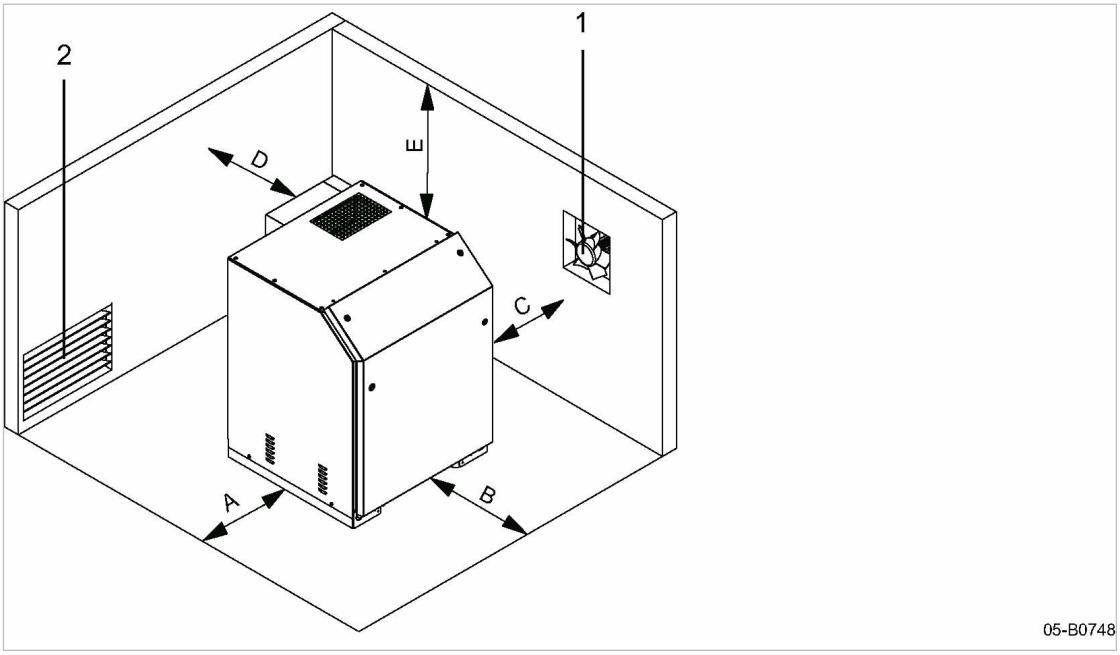


Fig. 26 Recommended machine placement and minimum dimensions [in.]

A	2.4 or 27.6	E	32.0
B	39.4	1	Exhaust fan
C	2.4 or 27.6	2	Air inlet aperture
D	39.4		

- ➢ The distance A **or** C must be at least 27.6 in.
  Version 1: A = 2.4 in. and C = 27.6 in.
  Version 2: A = 27.6 in. and C = 2.4 in.
- ➢ If the ambient temperature is too low: Heat the machine room adequately or install an auxiliary heater.
- ➢ Ensure accessibility so that all work on the machine can be carried out without danger or hindrance.
- ➢ Do not position the machine in the warm exhaust air flow from other machines.
- ➢ When installing multiple machines, ensure that all intake and exhaust air openings are arranged at one side.
- ➢ If installed outdoors, protect the machine against frost, direct sunlight, dust, and rain.

5.2.2 Ensuring adequate ventilation

If the ventilation is insufficient, a partial vacuum can be created in the room.

- ➢ Ensure that the volume of air flowing into the machine room is at least equivalent to that being removed from it by the machine and exhaust fan.
- ➢ Make sure that a sufficient amount of oxygen is supplied to individuals in the machine room.
- ➢ Make sure that the machine and exhaust fan can only operate when the inlet aperture is actually open.
- ➢ Keep the inlet and exhaust apertures free of obstructions so that the cooling air can flow freely through the room.
- ➢ Ensure clean air in order to support the proper functioning of the machine.

5.3 Option H3, H12 Outdoor installation

The sound enclosure (Option H12) is fitted with a stainless steel weather protection roof.

As per DIN EN ISO 129442, sound enclosure parts are painted in accordance with corrosion category C3 and a medium protection period (m).

Should the machine be installed outdoors, the instruments and the parts of the sound enclosure within the cover area are protected against direct sunlight, rain, wind and snow.

1. **⚠ CAUTION** *Risk of accident from falling snow and/or ice loads!*
   - ➢ *Remove any snow and/or ice from the machine before commissioning*
2. Remove snow and/or ice with caution.

6 Installation

6.1 Ensuring safety

Follow these instructions to ensure safe installation.

Warning instructions are provided prior to any potentially dangerous task.

Disregarding warning instructions can result in life-threatening injuries!

Observing safety instructions

Ignoring safety instructions can cause unforeseen dangers.

- ➢ Follow the instructions in chapter 3 “Safety and Responsibility”.
- ➢ Installation work must only be carried out by authorized personnel!
- ➢ Ensure that no personnel are working on the machine.
- ➢ Ensure that all cover panels are closed.

Working on live components

Touching live components can result in electric shocks, burns or death.

- ➢ Work on electrical equipment may only be carried out by authorized electricians.
- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.
- ➢ Check that there is no voltage on floating contacts.

Working on the compressed air system

Compressed air is stored energy. Uncontrolled release of this energy can cause serious injury or death. The following safety instructions relate to any work on components that might be pressurized.

- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.
- ➢ Close shut-off valves or otherwise isolate the machine from the compressed air network so as to ensure that no compressed air can flow back into the machine.
- ➢ Fully vent all pressurized components and enclosures.
- ➢ Do not open or dismantle any valves.

Working on the drive system

Touching live components can result in electric shocks, burns or death.
Touching the fan wheel or the belt drive while the machine is running can result in serious injury.

- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.

➢ Do not open any of the cover panels while the machine is switched on.

➢ If full protection is only provided when the machine is completely installed, then in all other phases of the machine's life-cycle temporary protective devices (e.g. covers) must be fitted, in order to guarantee that parts of the body cannot reach or be caught/sucked in by the rotary lobes.

Further information Information regarding authorised personnel can be found in chapter 3.4.2.

Information regarding dangers and their avoidance can be found in chapter 3.5.

6.2 Reporting transport damage

1. Check the machine for visible and hidden transport damage.
2. Inform the carrier and the manufacturer in writing of any damage without delay.

6.3 Anchoring the machine

The machine may be anchored to the floor.

The following anchoring elements are shipped with the machine:

Foundation bolts for machines without sound enclosure.

Foundation bolts and angle brackets for machines with sound enclosure.

➢ Use the anchoring elements to anchor the machine without stress.

Further information Details of the fixing holes are contained in the dimensional drawing in chapter 13.2.

6.4 Do not remove or change the adjusting screw of the pivoted motor base

The hex-head bolt that presses against the pivoted motor base from the side serves as an adjusting screw for the fine adjustment of the belt alignment. A gap between the hex-head bolt and the pivoted motor base ensures the clearance in radial direction and forms the stop in axial direction.

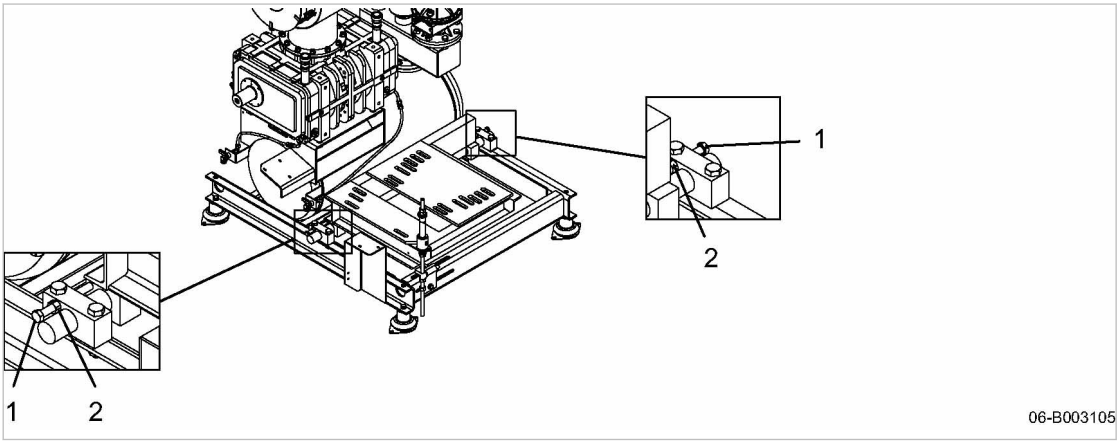


Fig. 27 Pivoted motor base

[1] Adjusting screw
[2] Hex nut

➢ Do **not** remove or change the adjusting screw [1] and corresponding hex nut [2].

➢ Contact an authorized KAESER service representative with any questions regarding the alignment of the belt drive.

6.5 Connecting the machine to the power supply

Precondition The power supply disconnecting device is switched off,
lock out and tag out the device,
the absence of any voltage has been verified.

The tolerance limits of the power supply are within the permissible tolerance limits of the rated machine voltage.

Option C32, operation under frequency control: The voltage in the intermediate circuit capacitors of the frequency converter is reduced.

1. The power supply must only be connected by authorized installation personnel or an authorized electrician.
2. Carry out safety measures as stipulated in relevant regulations and in national accident prevention regulations. In addition, observe the regulations of the local electricity supplier.
3. Select supply cable conductor cross sections and fusing in accordance with machine power and as per local regulations.
4. Test the overcurrent protective device to ensure that the time it takes to shut down in response to a fault is within the permitted limit.
5. The user is required to fit the machine with a lockable power supply disconnecting device which must comply with the requirements of EN 60204-1: 2018. 5.3.
   This could be, for example, a load disconnect switch with fused input. If a circuit breaker is used it must be suitable for the motor starting characteristics.
6. Connect the drive motor to the power supply in accordance with the applicable connection diagram.
   See connection diagram in chapter 13.4.
7. The user's safety devices must be correctly connected to the machine's electrical system by a qualified person.
8. Option C32, operation with frequency converter: Please refer to - and observe - all documentation regarding operation of, and work on, the frequency converter.
9. **⚠ DANGER** *Danger of fatal injury from electric shock!*
   - ➢ *Switch off and lock out/tag out the power supply disconnecting device and verify the absence of voltage.*
   - ➢ *When working with the frequency converter: Wait at least 5 minutes for dangerous voltages to subside.*
10. Connect the machine to the power supply.
11. Properly close openings, cable glands, etc.

The machine can be operated at full power at the rated voltage with a tolerance of ±5 %.

6.5.1 Option C32 For frequency control

If the machine delivered by KAESER includes the frequency converter, the regulation behavior and operating mode of the frequency converter will be preset.

➢ Adapt and optimize the actual properties to the customer system on-site.

Comply with the following provisions if you operate machines with a frequency converter:

- Operate the machine only within its performance limits and under the permitted ambient conditions.
- The frequency converter must be suitable for the operation of a working machine with constant torque. Models with squared torque may not be used.
- Drive motor rated power ≤ 75 hp:
  To avoid bearing damage at the drive motor, install components for magnetic shielding at the frequency converter's phase wire output ends (e.g., rings with high permeability).
- When operating the machine with frequency converter, the drive motor must be designed as follows:
  - Voltage < 500 V ≥ 100 hp:
    Standard winding and isolated bearing or bearing shield at the control side, regardless of the model.
  - Voltage ≥ 500 V < 100 hp:
    Enhanced winding isolation, standard bearing, regardless of the model.
  - Voltage ≥ 500 V ≥ 100 hp:
    Enhanced winding isolation and isolated bearing or bearing shield at the drive and the control side, regardless of the model.
- Frequency converters providing a lower initial voltage than the rated motor voltage will cause an increased power consumption and heat development in the drive motor. This results in a reduced nominal motor power that can be utilized and thus a decrease in the machine's regulating range. To avoid damage to the drive motor, please consult with the manufacturer of the frequency converter.
- Use a frequency converter with IGBT transistors.
- The speed change should be approx. 5 Hz per second. This value applies also for the starting ramp from standstill to reaching minimum frequency. Changing the settings, either slower or faster, may be possible after verification by an authorized KAESER service representative.
- The frequency converter may be switched onto a motor in standstill only, in order to avoid malfunctions.
- Upon deactivation of the frequency converter, it must be impossible to reactivate it until after complete machine standstill.
- For a shut-down in the event of a malfunction, integrate the following devices in the user's controller:
  - PTC resistor for monitoring the winding temperature of the drive motor.
  - Thermostat for monitoring the blower block discharge temperature.
- For safety-technical reasons, an automatic restart of the machine is not permitted and must be fully deactivated when parametrizing the frequency converter.

- The maximum conductor length between the output of the frequency converter and drive motor is 98 ft. Longer conductors may be possible upon verification by an authorized KAESER service representative.
- Only shielded conductors may be used to connect the machine to ensure an EMC compliant connection and machine operation.
  - Do not twist the braided shield of these conductors. The braided shield must be generously spread two-sided across the ground potential.
  - Use only EMC shield clamps or EMC-compliant screwed cable glands.
  - This also applies to other connecting cables, such as the thermistor sensors (PTC) of the drive motor.

Further information Consult with an authorized KAESER service representative to determine an appropriate frequency converter.

6.5.2 Option H3, H12 Outdoor installation

➢ Install suitable protection against lightning.

6.6 Making the compressed air connection

Material Torque wrench

Precondition The machine is factory assembled and ready for use up to the point of connection to the discharge silencer.
The compressed air network is completely depressurized.

⚠ WARNING

Serious injury or death can result from loosening or opening components under pressure!

➢ *Depressurized all pressurized components and enclosures.*

A non-return valve or check valve must be installed in systems in which overpressure remains after the machine has been shut down to allow for unloaded starting of the machine.

➢ Consult an authorized KAESER service representative regarding a suitable check valve and expert installation.

1. Use a flexible connector to create the air connection to the piping system or the consumer and install, complying with the torques specified below:

Connection to customer's piping	Torque [lbf-ft]
Compressor with hose clamps	—
Compressor with screwed joint M20*	66.4
* Manually tighten screws equally, pretension crosswise at 37 lbf-ft and subsequently retighten crosswise with torque according to table.	

Tab. 32 Compensator torques at discharge side

2. Support the weight of the pipework and any other connecting components.

Option H12 Sound enclosure

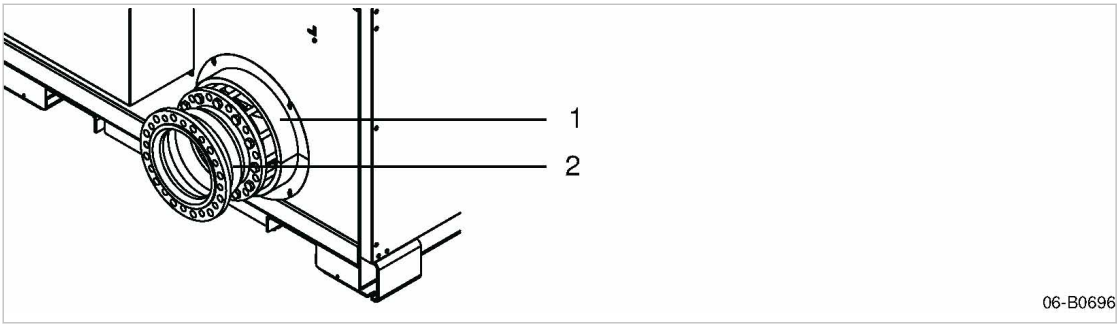


Fig. 28 Assembling the two collar halves

[1] Collar half
[2] Compensator

➢ Tightly position the supplied collar halves [1] around the compensator [2] of the port ends and screw to the sound enclosure.

6.7 Safety devices installed by the user

➢ The user must install the necessary safety devices.
- Three PTC thermistor sensors should be installed by the user to protect against drive motor overheating or overloading.
- A motor overload protection switch/overload relay (if not included with the deliverables) must be installed to monitor maximum current draw(s).
- EMERGENCY OFF command device for immediate shut-down of the machine.

➢ The user must monitor the following parameters:
- Permissible final pressure
- Maximum block discharge temperature

➢ Consult KAESER for advice on this subject.

Safety valves and check valves are not regulating means in case of overpressure.
The activation of the safety relief valve (blow-off valve) constitutes an impermissible operating state requiring immediate remedial measures.

6.8 Options

All options are mechanically installed/mounted. The electrical connections and evaluations are the customer's responsibility.

➢ Read and follow instructions on individual options!

6.8.1 Option C5 Connecting the oil level monitor

➢ Connecting the oil level monitor.

Further information See electrical diagram in chapter 13.5.1.

6.8.2 Option C9 Connecting the pressure switch

➢ Connecting the pressure switch

Further information See chapter 13.5.2.

6.8.3 Option C10 Connecting the speed monitor

The sensor and transmitter are mechanically installed.

➢ A speed monitor sensor is supplied separately when ordered individually. Install in the user's control cabinet and wire up.

Further information See chapter 2.14.3 for the sensor settings.
The wiring diagram for the speed monitor is found in chapter 13.5.3.

6.8.4 Option C13 Connecting the temperature gauge switch

➢ Connect the temperature gauge switch.

Further information See electrical diagram in chapter 13.5.4.

6.8.5 Option C14 Connecting the pressure sensor

➢ Connecting the pressure sensor

Further information See chapter 13.5.5.

6.8.6 Option C19 Connecting the thermostat

➢ Connect the thermostat.

Further information See electrical diagram in chapter 13.5.6.

6.8.7 Option F5 Connecting the filter pressure differential switch

➢ Connect the filter pressure differential switch.

Further information See electrical diagram in chapter 13.5.7.

6.8.8 Option H2 Connecting the auxiliary heater

➢ The auxiliary heater is delivered uninstalled. The radiator, thermostat, and terminal box are already installed on a mounting plate.

➢ Connect the auxiliary heater in the terminal box.

Further information See the electrical diagram in chapter 13.5.8.

6.8.9 Option H11 Connecting the inlet pipeline

If suction is to be from a pipeline, the inlet silencer is connected using a compensator.

Material Torque wrench

Precondition The compressed air system is vented completely to atmospheric pressure.

1. Connect to the compressed air system using the following torques:

Connection to an customer's pipeline	Torque [lbf-ft]
Compressor with hose clamps	—
Compressor with screwed joint M20*	66.4
* Manually tighten screws equally, pretension crosswise at 37 lbf-ft and subsequently retighten crosswise with torque according to table.	

Tab. 33 Inlet compressor torques

2. Separately secure the inlet pipelines upstream of the compensator.

Further information The dimensional drawing in chapter 13.2 provides information regarding the connection of the pipeline.

6.8.10 Option H12 Sound enclosure

6.8.10.1 Electrical connections

Subsequent work enables the access to the electrical connections of drive motor, ventilator fan motor and accessories.

1. Remove the panel of the sound enclosure and open the flaps, if necessary.
   Latches are released by a key supplied with the machine.
2. Make the electrical connections.
3. Replace the panel and close the flaps, secure the latches.

6.8.10.2 Connecting the ventilator fan

The ventilator fan motor has a terminal box for direct power supply connection.

The drive motor and the ventilator fan must run simultaneously.

Ensure correct direction of rotation when connecting the extractor motor. The extractor must blow air out of the sound enclosure.

The extractor should run on for approximately 15 minutes after machine shut down to avoid temperature peaks inside the sound enclosure.

Precondition
The power supply is switched off,
The device is locked off,
A check has been made that no voltage is present.

1. Select sufficient cable length.
2. Connect cables to the terminal box without mechanical stress.
3. Connect the protective ground.

Further information
See electrical diagram in chapter 13.5.9.

7 Initial Start-up

7.1 Ensuring safety

This chapter provides instructions for safe commissioning of the machine.
Warning instructions are provided prior to any potentially dangerous task.

⚠ Disregarding warning instructions can result in life-threatening injuries!

Observing safety instructions

Ignoring safety instructions can result in unforeseen dangers.

- ➢ Follow the instructions in chapter 3 “Safety and Responsibility”.
- ➢ Commissioning tasks may only be carried out by authorized installation personnel!
- ➢ Ensure that no personnel are working on the machine.
- ➢ Ensure that all cover panels are closed.

Working on live components

Touching live components can result in electric shocks, burns or death.

- ➢ Work on electrical equipment may only be carried out by authorized electricians.
- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.
- ➢ Check that there is no voltage on floating contacts.

Working on the compressed air system

Compressed air is stored energy. Uncontrolled release of this energy can cause serious injury or death. The following safety instructions relate to any work on components that might be pressurised.

- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.
- ➢ Close shut-off valves or otherwise isolate the machine from the compressed air network so as to ensure that no compressed air can flow back into the machine.
- ➢ Fully vent all pressurized components and enclosures.
- ➢ Do not open or dismantle any valves.

Working on the drive system

Touching live components can result in electric shocks, burns or death.
Touching the fan wheel or the belt drive while the machine is running can result in serious injury.

- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.

➢ Do not open any of the cover panels while the machine is switched on.

➢ If full protection is only provided when the machine is completely installed, then in all other phases of the machine's life-cycle temporary protective devices (e.g. covers) must be fitted, in order to guarantee that parts of the body cannot reach or be caught/sucked in by the rotary lobes.

Further information Information regarding authorized personnel can be found in chapter 3.4.2.

Information regarding dangers and their avoidance can be found in chapter 3.5.

7.2 Instructions to be observed before commissioning

Incorrect or improper commissioning can cause injury to persons and damage to the machine.

➢ Commissioning may be carried out only by authorized installation and service personnel who have been trained on this machine.

Special measures for recommissioning after storage/standstill

Storage period/ standstill longer than	Measure
12 months	➢ Change the lubricating oil. ➢ Re-grease the drive motor bearings if they are not of the permanently-greased type. ➢ Check the condition and tension of the drive belts. ➢ Have the frequency converter smoothing capacitors formed (refreshed) by an authorized KAESER service representative.
36 months	➢ Have the overall technical condition checked by an authorized KAESER service representative.

Tab. 34 Recommissioning after storage/standstill

7.3 Checking installation and operating conditions

➢ Check and confirm all the items on the checklist before commissioning the machine.

Check:	See chapter	Confirmed?
➢ Have all packing materials, tools and transport securing devices been removed from the machine?	–	
➢ Are the operators completely familiar with the applicable safety regulations?	–	
➢ Have all of the installation conditions been fulfilled?	5	
For installation outdoors (Option H3/H12): ➢ Has all snow and/or ice been removed from the machine? ➢ Has protection against lightning been installed?	–	
➢ Has an automatic shutdown feature for the event of a fault been installed via user-end safety devices?	6.7	

Check:	See chapter	Confirmed?
➢ Are the power supply cable conductor cross-sections and fuse ratings sufficient?	2.13	
➢ Has the drive motor electrical connection been checked?	6.5	
➢ Has the fan (sound enclosure) electrical connection been checked? (Option H12)	6.8.10	
➢ Has the direction of rotation for the drive motor and fan (sound enclosure) been checked?	7.5	
➢ Have all electrical connections been checked for tightness? (Following initial commissioning, the check must be repeated after 50 operating hours)	–	
➢ Is there adequate lubrication at the control-end and drive-end of the blower block? (Oil level in the center of the oil sight glass)	10.5	
➢ Has the connection to the compressed air network been made with a flexible hose or compensator?	6.6	
➢ Has the drive belt tension been checked? (Following initial commissioning, the check must be repeated after 24 operating hours)	10.4	
➢ Is the machine firmly anchored to the floor without stress?	6.3	
➢ Have the removable access panel for the sound enclosure and all other cover panels been fitted and locked in place? (Option H12)	4.9.14	

Tab. 35 Installation conditions checklist

7.4 Re-greasing the motor bearings

➢ The motor bearings of motors with re-greasing facility must be re-greased with bearing grease prior to the initial commissioning of the machine.

Further information Further information on re-greasing motor bearings can be found in chapter 10.10.1.

7.5 Checking the direction of rotation for the drive motor

The machine is designed for a clockwise phase sequence.

If the direction of rotation is incorrect, the flow direction will be reversed and air drawn in from the compressed air line.

An arrow indicating the direction of rotation is located at the drive-end of the block and at the belt guard.

Material Phase sequence indicator

NOTICE

Incorrect direction of rotation!
This may result in damage to the machine from intake of foreign articles or excessive vacuum.

➢ *Ensure the correct direction of rotation.*

1. Remove the filter maintenance cover from the inlet silencer or inlet filter and/or remove the check valve on the inlet side.
2. Verify the direction of rotation using a phase sequence indicator on the machine supply lines.
3. If the direction of rotation is incorrect, exchange phases L1 and L2 of the supply lines.

If you do not have access to a phase sequence indicator:

➢ Arrange for the phase sequence to be checked by an authorized KAESER service representative.

7.5.1 Option H12 Fan (sound enclosure)

An arrow is also to be found on the fan to indicate its correct direction of rotation.

The fan must blow air out of the sound enclosure.

➢ **Single-phase fan:** If the direction of rotation is incorrect, switch the electric connection in the terminal box of the fan. Instructions regarding "Right" and "Left" operation are provided in the cover of the terminal box.

➢ **Three-phase fan:** If the direction of rotation is incorrect, interchange phases L1 and L2 of the supply line(s).

8 Operation

8.1 Switching the machine on and off

To a large extent, the procedure for switching the machine on and off depends on which operating mode is intended for the process and on the equipment provided for it. Such equipment is to be installed at the user-end and thus does not constitute part of the scope of supply for the machine (except in the case of options).

Information regarding the function of the user-end control cabinet should be taken from the documentation provided by the control cabinet manufacturer.

8.1.1 Switching on

➢ Ensure that the machine is in perfect technical condition before switching it on.
If the machine is equipped with a sound enclosure, check that the fan is fully operational.

➢ Switch the machine on only when it is fully stopped.

Maximum frequency of motor starts per hour: 6 times.

Option C32, operation with frequency converter
Maximum frequency of motor starts per hour: unlimited.

Precondition A suitable unloaded start device is installed in case of back pressure.

No personnel are inside the machine.

1. **⚠ WARNING** *Serious injury can be caused by compressed air!*
   ➢ *Ensure that no personnel are working on the machine.*
2. Switch the machine on via the user-end control cabinet or
   if Option C32, operation with frequency converter, is specified: switch the machine on at the frequency converter.

➢ For installation outdoors (Option H3/H12): Remove snow and/or ice from the machine.

1. **⚠ CAUTION** *Risk of accident from falling snow and/or ice loads!*
   ➢ *Remove any snow and/or ice from the machine before commissioning.*
2. Remove snow and/or ice with caution.

8.1.2 Switching off

➢ Switch the machine off via the user-end control cabinet or
if Option C32, operation with frequency converter, is specified: switch the machine off at the frequency converter.

8.2 Switching off in an emergency

The machine is not equipped with an emergency stop device. Such a device must be provided by the user unless it is part of an ordered option.

➢ Ensure the machine can be stopped immediately in an emergency.

8.3 Option H12
Checking the ventilator fan function (sound enclosure)

NOTICE

Overheating inside the sound enclosure!
A standstill of the ventilator can result in a breakdown of the blower block or other components.

➢ *If the ventilator stops, immediately provide an alternative flow of cooling air through the sound enclosure.*

➢ Check that air is actually being blown out of the enclosure cooling air outlet, e.g. by holding a sheet of paper in front of the outlet.

Further information KAESER SERVICE will advise on suitable measures.

9 Fault Recognition and Rectification

9.1 Basic instructions

The following tables are intended to assist in locating faults.

1. Do not attempt fault rectification measures other than those given in this manual!
2. In all other cases:
   Have the fault rectified by an authorized KAESER service representative.

9.2 Faults

Fault	Possible cause	Remedy
Unusual noise when running.	Too much backlash in the timing gears.	Call an authorized KAESER service representative.
	Too much play in the rotor bearings.	Call an authorized KAESER service representative.
	Rotors not synchronized.	Keep the pressure differential and speed as specified. Call an authorized KAESER service representative.
Blower block runs too hot.	Pressure differential too great.	Check and correct pressure differential.
	Clogged inlet filter reducing air intake volume.	Clean the inlet filter.
	Rotor clearance too large.	Call an authorized KAESER service representative.
	Leakage due to incorrect installation of pressure-bearing components.	Call an authorized KAESER service representative.
Oil leaks from the gas drain.	Oil level too high.	Drain off oil until the correct level is reached.
Oil leaking from around the drive shaft.	Shaft seal defective.	Call an authorized KAESER service representative.
Reduced air inlet flow.	Rotor clearance too large because of wear.	Call an authorized KAESER service representative.
	Intake resistance too high.	Clean the inlet filter.

Fault	Possible cause	Remedy
Black film on the oil sight glasses.	Oil not changed at the correct interval.	Change the lubricating oil. Clean or replace the sight glass.
	Insufficient oil.	Change the lubricating oil. Clean or replace the sight glass.
	Oil overheated.	Call an authorized KAESER service representative.
	Block overloaded.	Call an authorized KAESER service representative.
Water in the oil.	Condensate build-up by prolonged storage and high humidity.	Change the lubricating oil.
Safety relief valve activates.	Inappropriate operating state, operating pressure too high.	Bring the machine to a permissible operational state or shut down.
PTC relay trips out.	Operating pressure too high.	Check and correct pressure differential.

Tab. 36 Faults and remedies

9.3 Options

This section provides remedies for technical faults concerning the machine's optional equipment.

9.3.1 Option H12 Sound enclosure faults

Alarm	Possible cause	Remedy
Overheating inside the sound enclosure!	Fan defective or turning in the wrong direction.	Check connection. Contact an authorized KAESER service representative.
	Flow of cooling air blocked.	Check and clean cooling air apertures. Check the cooling air inlet temperature.
	Drive motor overloaded.	Check operating conditions.
	Leakage due to incorrect installation of pressure-bearing components.	Contact an authorized KAESER service representative.

Tab. 37 Faults and remedies (option H12)

9.3.2 Option C14 Faulty pressure sensor

Fault	Possible cause	Remedy
No output signal.	No power supply, broken wire.	Check power supply and wires.
	Pressure transducer incorrectly connected.	Check power supply and wires.
	No input pressure.	Check pressure feed.
	Electronic defect from power supply voltage surge or external voltage.	Call an authorized KAESER service representative.
Output signal does not respond to pressure changes.	Input channel blocked.	Clean the input channel and throttle screw, being careful not to damage the delicate diaphragm.
	Electronic defect from power supply voltage surge or external voltage.	Call an authorized KAESER service representative.
	Pressure transducer defective from mechanical overloading.	Call an authorized KAESER service representative.
Output signal too high and not responding to pressure changes.	Electronic defect from power supply voltage surge or external voltage.	Call an authorized KAESER service representative.

Tab. 38 Faults and remedies (Option C14)

10 Maintenance

10.1 Ensuring safety

Follow the safety instructions below to ensure safe maintenance of the machine.
Warning instructions are provided prior to any potentially dangerous task.

⚠ Disregard of warning instructions can result in life-threatening injuries!

Observing safety instructions

Ignoring safety instructions can result in unforeseen dangers.

- ➢ Follow the instructions in chapter 3 “Safety and Responsibility”.
- ➢ Allow maintenance work to be performed by authorized personnel only!
- ➢ Ensure that no personnel are working on the machine.
- ➢ Ensure that all cover panels are closed.

Working on live components

Touching live components can result in electric shocks, burns or death.

- ➢ Work on electrical equipment may only be carried out by authorized electricians.
- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.
- ➢ Check that there is no voltage on floating contacts.

Working on the compressed air system

Compressed air is stored energy. Uncontrolled release of this energy can cause serious injury or death. The following safety instructions relate to any work on components that might be pressurised.

- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.
- ➢ Close shut-off valves or otherwise isolate the machine from the compressed air network so as to ensure that no compressed air can flow back into the machine.
- ➢ Fully vent all pressurized components and enclosures.
- ➢ Do not open or dismantle any valves.

Working on the drive system

Touching live components can result in electric shocks, burns or death.
Touching the fan wheel or the belt drive whilst the machine is running can result in serious injury.

- ➢ Switch off the power supply disconnecting device, lock out / tag out the device, verify the absence of any voltage.

- ➢ Do not open any of the cover panels while the machine is switched on.
- ➢ If full protection is only provided when the machine is completely installed, then in all other phases of the machine's life-cycle temporary protective devices (e.g. covers) must be fitted, in order to guarantee that parts of the body cannot reach or be caught/sucked in by the rotary lobes.

Further information Information regarding authorized personnel can be found in chapter 3.4.2.
Information regarding dangers and their avoidance can be found in chapter 3.5.

10.2 Maintenance schedule

10.2.1 Logging maintenance work

The maintenance intervals given are those recommended for average operating conditions.

- ➢ Maintenance tasks should be carried out more frequently where operating conditions are unfavorable (e.g. dusty ambient) or when the equipment is in constant use.
- ➢ Adjust the maintenance intervals with regard to local installation and operating conditions.

- ➢ Keep a log of all maintenance and service work.
  This enables the frequency of individual maintenance tasks and deviations from our recommendations to be determined.

Further information A prepared log is provided in chapter 10.12.

10.2.2 Regular maintenance tasks

The table below lists the required maintenance tasks.

If operating conditions are unfavorable (e.g. dusty ambient) or if the equipment is in constant use, maintenance tasks must be carried out more frequently (shorter intervals).

- ➢ Carry out maintenance tasks in a timely manner, taking the ambient and operating conditions into consideration:

Interval	Maintenance task	See chapter
At least 24 hours after initial commissioning	Check drive belt tension.	10.4
At least 50 hours after initial commissioning	Check that all electrical connections are secure and properly attach if necessary.	–
500 hours after initial commissioning*	Change the lubricating oil.	10.7
Up to 500 h Or monthly	Check the oil level.	10.5
	Check drive belt tension.	10.4
	Check the air filter.	10.8
Up to 1000 h	Clean the machine.	10.9

h = operating hours

* Not applicable in the case of initial commissioning by an authorized KAESER service representative.

Interval	Maintenance task	See chapter
Up to 2000 h, At least once a year	Drive motor bearings with re-greasing facility: Re-grease the motor bearings	10.10.1
Up to 3000 h At least once a year	Change the FGB 220 lubricating oil.	10.7
Up to 3000 h, At least once a year	Change the air filter.	10.8
Annually	Check the safety relief valve.	10.11
	Check that all electrical connections are secure and attach if necessary.	–
Up to 6000 h, At least every 2 years	Change the SB 220 lubricating oil.	10.7
Up to 12000 h, At least every 4 years	Replace the drive belt.	10.4

h = operating hours

* Not applicable in the case of initial commissioning by an authorized KAESER service representative.

Tab. 39 Regular maintenance tasks

10.2.3 Regular service tasks

The table below lists service tasks required.

➢ Only an authorized KAESER service representative should carry out service work.

➢ Have service tasks carried out punctually, taking the ambient and operating conditions into account:

Interval	Service task
Up to 36000 h	Permanently greased drive motor bearings: Replace the motor bearings.
	(Option H12) Sound enclosure fan: Replace the fan.
	(Option C11) Maintain the unloaded start valve (AFE).
	(Option C18) Maintain the unloaded start valve with regulating valve (AFR).
Up to 36000 h, At least every 8 years	(Option G1) Maintain the check valve.
	Replace the compensators.

h = operating hours

Tab. 40 Regular service tasks

10.3 Option H12 Sound enclosure

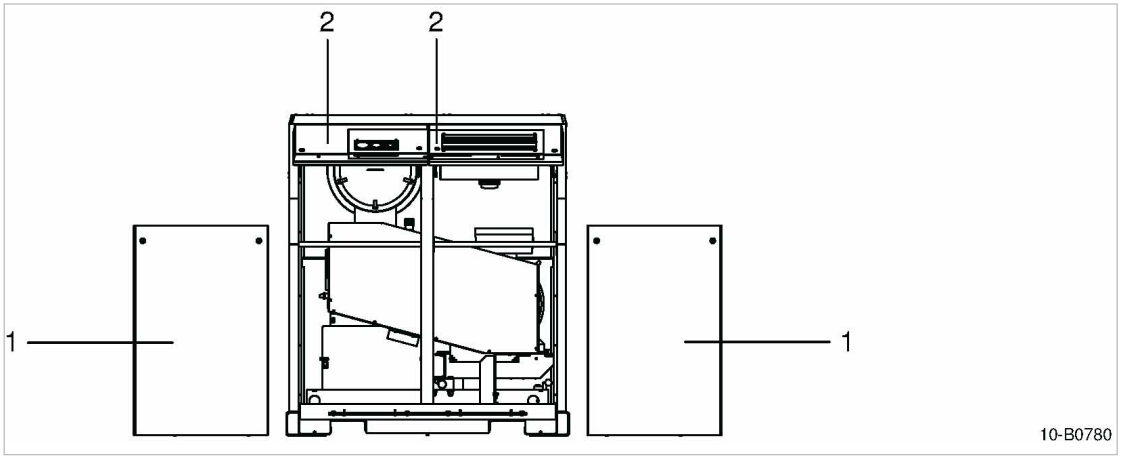


Fig. 29 Sound enclosure

[1] Removable panel
[2] Flap

➢ Lift off panel(s)[1] for maintenance work.

➢ If required, open the flap(s) [2].
Latches are released by a key supplied with the machine.

10.4 Drive belt maintenance

Material Spare parts (if required)

Precondition The power supply disconnecting device is switched off,
lock out and tag out the device,
the absence of any voltage has been verified.

The machine has cooled down.

⚠ WARNING

Touching the moving drive belt may result in severe bruising or even loss of limb or extremities.

➢ *Switch off and lock out/tag out the power supply disconnecting device and verify the absence of voltage.*

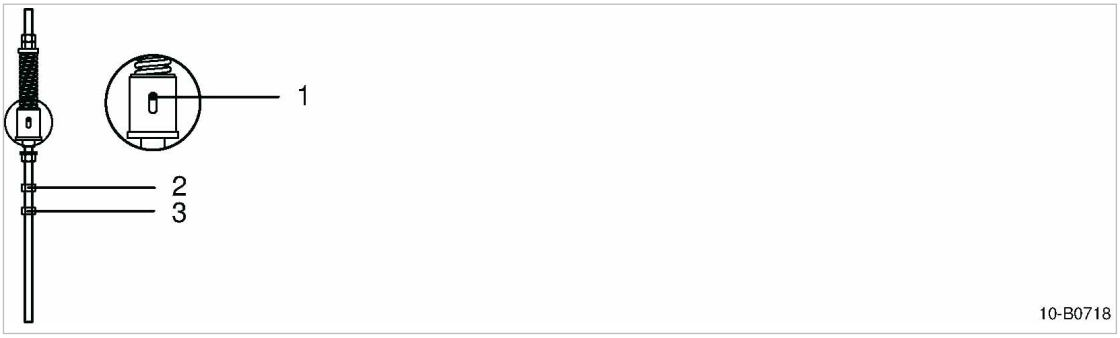


Fig. 30 Drive belt maintenance

[1] Marker pin (shown as: belt tensioning required)
[2] Locking nut
[3] Adjusting nut

Checking belt tension and adjustment

The tensioning device uses spring force to apply correct tension to the belt.

Adjust the tension before the marker pin reaches the **top** end of the elongated hole.

1. Loosen the locking nut [2].
2. Use the adjusting nut [3] to adjust spring tension until the marker pin reaches the lower end of the elongated hole.
3. Tighten the locking nut [2].

Visually check for damages.

1. **⚠ CAUTION** *Danger of pinching between belt and pulley!*
   ➢ *Work carefully.*
2. Turn the pulley by hand so that the entire belt can be inspected for damage.
3. In case of damage: Replace the drive belt immediately.

When individual belts fail in multiple-groove drives, all belts must be replaced.

Changing the belt.

1. Remove the belt guard.
2. Loosen the locking nut [2].
3. Turn the adjusting nut [3] to loosen the tension on the belts until they can be removed from the pulley.
4. Install the new set of belts and use the adjusting nut [3] to adjust the tension until the marker pin reaches the lower end of the elongated hole.
5. Tighten the locking nut [2].
6. Replace the belt guard.
7. Check the tension after the new belt has been in operation for 50 hours.

10.5 Checking the oil level

The true oil level can be seen in the oil sight glass only when the machine is stopped.

The gear-end and drive-end oil chambers are not connected.

⚠ WARNING

Danger of burns from hot components!

➢ *Wear long-sleeved clothing and protective gloves.*

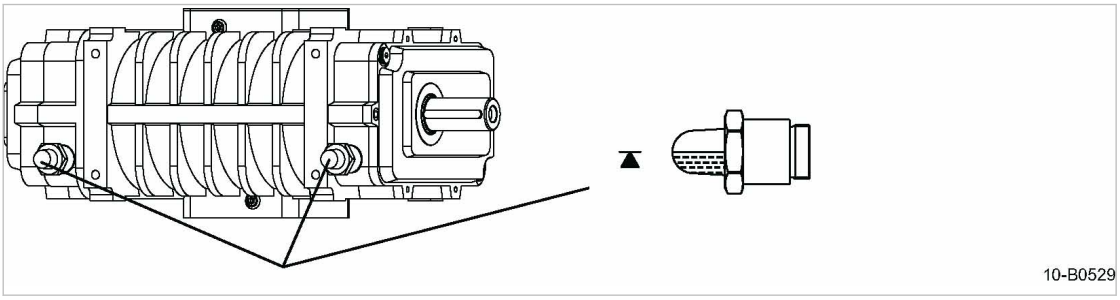


Fig. 31 Checking the oil level

1. Check the oil level in the sight glasses on both ends of the block.
2. Replenish as soon as the level falls 0.3 in. below the center of the sight glass.

10.6 Replenishing lubricating oil

Labels giving the oil type for topping off are to be found on the blower block and belt guard.

The machine must be isolated from the compressed air network and completely vented before undertaking any work on the pressure system.

Precondition The power supply disconnecting device is switched off,
the disconnecting device is locked in the off position,
the oil level has settled.

⚠ WARNING

Danger of burns from hot components and oil!

➢ *Wear long-sleeved clothing and protective gloves.*

NOTICE

Unsuitable oil can damage the block!

➢ *Never mix different types of oil.*

➢ *Never top off with a different type of oil to that already used in the block.*

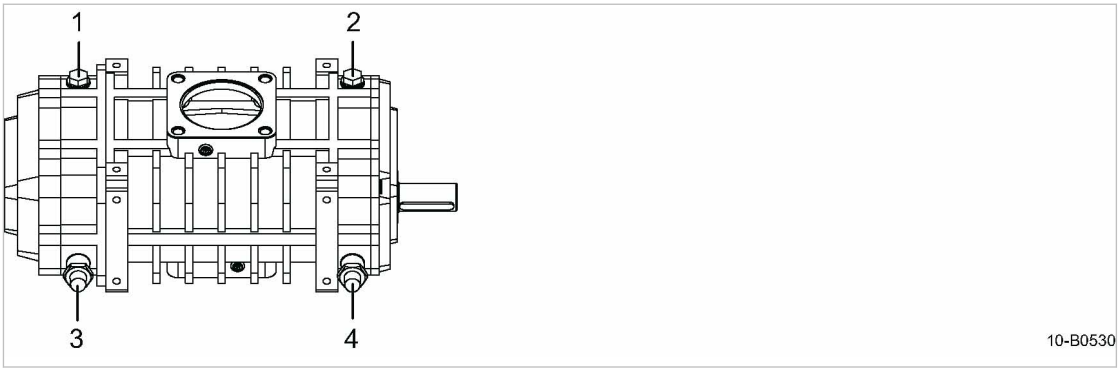


Fig. 32 Replenishing lubricating oil

[1] Plug (gear-end oil filling port)
[2] Plug (drive-end oil filling port)
[3] Gear-end oil sight glass
[4] Drive-end oil sight glass

1. Slowly remove the plug [1] and/or [2].
2. Top off until the level is at the marking on the sight glass [3] and/or [4].
3. Screw in the plugs.
4. Visually check for leaks.

10.7 Changing the oil

The machine must be isolated from the compressed air network and completely vented before undertaking any work on the pressure system.

The oil should be changed with the block temperature at 130°F to ensure the oil flows freely.

Drain the oil thoroughly from the blower block:

- Gear-end
- Drive-end

Material Lubricating oil

Oil receptacle

Precondition The power supply disconnecting device is switched off,
The device is locked off,
A check has been made that no voltage is present.

⚠ WARNING

Danger of burns from hot components and oil!

➢ *Wear long-sleeved clothing and protective gloves.*

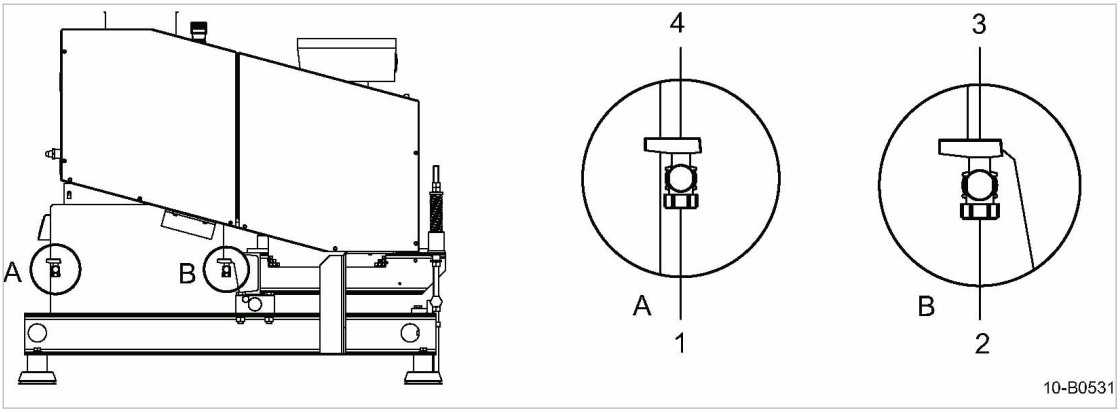


Fig. 33 Changing the oil

A	Drive-end	2	Cap
B	Gear-end	3	Oil drain tap
1	Cap	4	Oil drain tap

Draining the oil

1. Prepare an oil receptacle.
2. Take out the oil filler plugs at the oil inlet of the blower block 1 and 2 (Fig. 32).
3. Take off the caps 1 and 2 and open the oil drain taps 3 and 4.
4. Drain the lubricating oil.

Dispose of the old oil in accordance with local environmental protection regulations.

Filling with fresh oil

1. Fill with fresh oil.
2. Allow the oil drain taps to remain open until fresh oil begins to run out (bleeding the oil drain lines).
3. Close the oil drain taps 3 and 4.
4. Check the oil level in both sight glasses (Fig. 32) and top off as necessary.
5. Screw on the caps 1 and 2.
6. Replace and tighten the oil filler plugs of the oil inlets at the blower block.
7. Visually check for leaks.

10.8 Air filter maintenance

The air filter protects the supplied pressure system from dirt entering.

NOTICE

Machine damage caused by unsuitable air filter!
The use of an unsuitable air filter can permit dirt to enter the pressure system and cause damage to the machine.

➢ *Use a suitable air filter.*

The air filter cannot be cleaned.

10.8.1 Filter maintenance indicator

The maintenance indicator shows when the filter needs maintenance. When the filter becomes clogged and flow resistance rises to a set point, the maintenance signal is given.

Machine without sound enclosure

The filter maintenance indicator is installed at the intake silencer.

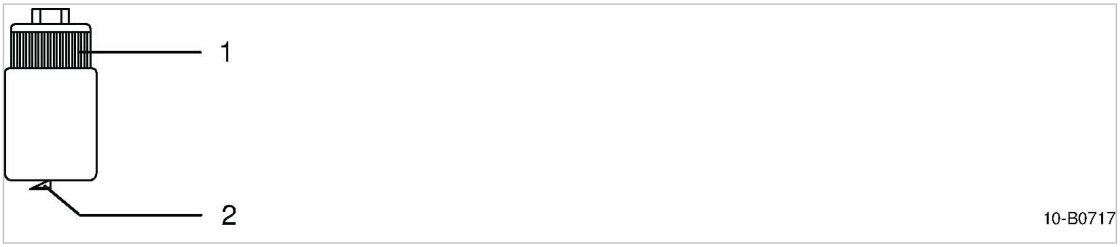


Fig. 34 Filter maintenance indicator (machine without sound enclosure)

[1] Signal ring
[2] Reset button

1. Change the air filter when the signal ring [1] shows red.
2. Unlatch the signal ring by pressing the reset button [2].

Option H12 Machine with sound enclosure

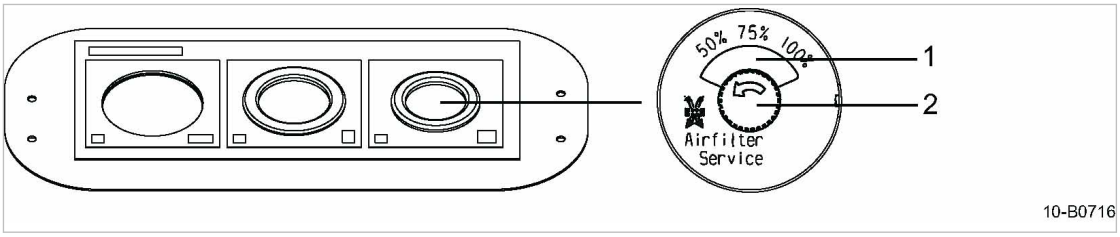


Fig. 35 Filter maintenance indicator (machine with sound enclosure)

[1] Indicator range
[2] Reset button

1. Replace the filter when the maintenance indicator reads more than 50%.
2. Reset to the indication range [1] by pressing the reset button [2].

10.8.2 Option F5 Filter pressure differential switch

The filter pressure differential switch monitors contamination of the intake filter.

The switch is triggered by pressure differential. Falling below or rising above the set value causes the current flow to switch on, switch off or changeover according to how the switch is wired.

➢ Change the air filter if the pressure differential switch activates.

10.8.3 Changing the air filter

The machine must be isolated from the compressed air network and completely vented before undertaking any work on the pressure system.

Material Spare parts

Precondition The power supply disconnecting device is switched off,
the device is locked off,
the absence of any voltage has been verified.

⚠ WARNING

Danger of burns from hot components!

➢ *Wear long-sleeved clothing and protective gloves.*

Fig. 36 Changing the air filter

[1] Cover
[2] Inlet silencer
[3] Air filter

1. Open the snap fastener on the inlet silencer cover [2] .
2. Remove off the cover [1].
3. Loosen the Velcro strip and remove the air filter [3].
4. Clean all parts and sealing surfaces.
5. Place the new filter around the perforated inlet port and secure with the Velcro strip.
6. Attach the cover to the inlet silencer.

10.9 Machine cleaning

Regularly clean the machine. This ensures reliable cooling of the machine. The frequency is mainly dependent on local operating conditions.

Clogged machines are indicative of unfavorable ambient conditions. Such ambient conditions clog the cooling air ducts in the machine's interior and the motors resulting in increased wear and tear.

Material Brush and/or compressed air
Protective gloves
Face mask and safety goggles (if required)
Vacuum cleaner

Precondition The power supply disconnecting device is switched off,
the device is locked off,
the absence of any voltage has been verified.

The machine has cooled down.

1. Open the sound enclosure (Option H12).
   Dismantle panels in order to clean the cooling air ducts of the drive motor.
2. Dry brush the machine or blow off with compressed air.
3. Vacuum off dirt.
4. Close sound enclosure (Option H12).
   Replace and lock panels.

The machine cannot be cleaned?

➢ Have severe clogging removed by an authorized KAESER service representative.

10.10 Motor maintenance

Motor maintenance depends on the type of motor.

Material Grease gun with bearing grease UNIREX N3

Cleaning cloth

10.10.1 Drive motor bearings with re-greasing facility

The motor bearings are fitted with grease fittings.

Use only the high temperature grease UNIREX N3 for the motor bearings. Damage to bearings caused by the use of other brands of grease is excluded from the warranty.

The required quantity of grease is stated on the motor maintenance plate.

Precondition The motor is running.

1. **⚠ WARNING** *Noise during machine operation without sound enclosure or noise due to opened removable access panel of the sound enclosure (Option H12)! Hearing may be damaged.*
   ➢ *Always wear hearing protection.*
2. **⚠ WARNING** *Danger of burns from hot components!*
   ➢ *Wear long-sleeved garments and protective gloves.*
   ➢ *Work with caution.*
3. **NOTICE** *Drive motor damage due to incorrect re-greasing!*
   If the motor is switched off, the new bearing grease is distributed incorrectly and pressed unused into the old grease tank.
   ➢ *Re-grease the bearings only with the motor running.*
4. The motor bearings must be replaced in the course of regular maintenance by an authorized KAESER service representative.

Machine without sound enclosure

Fig. 37 Drive motor maintenance
[1] Grease fitting

1. Clean the fittings [1] with a cloth before greasing.
2. Grease both bearings with a grease gun.

Option H12 Machine with sound enclosure

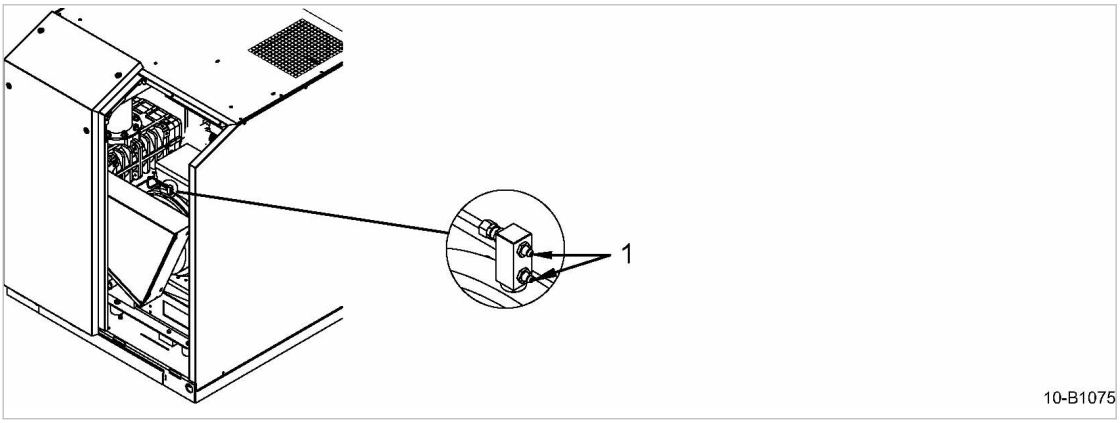


Fig. 38 Maintenance of a drive motor with re-greasing facility
[1] Grease fitting

1. Remove the sound enclosure access panel.
2. Clean the grease fittings [1] with a cloth before greasing.
3. Grease both bearings with a grease gun.
4. Insert the access panel, close the latch.

Further information Re-greasing intervals are found in chapter 2.4 and in chapter 10.2.2.
For further information regarding the motor, please consult the motor manual.

10.10.2 Permanently greased drive motor bearings

The motor bearings are permanently lubricated. Re-greasing is not necessary.

➢ The motor bearings must be replaced in the course of regular service calls by an authorized KAESER service representative.

Further information For further information regarding the motor, please consult the motor manual.

10.10.3 Option H12 Sound enclosure fan motor

The motor bearings are permanently lubricated. Re-greasing is not necessary.

➢ The fan must be replaced in the course of regular service calls by an authorized KAESER service representative.

10.11 Testing the safety relief valve

Free movement of the safety relief valve's tension rod is checked by hand or with a lifting device.

Precondition The machine is switched off.
The machine is fully vented to atmosphere.

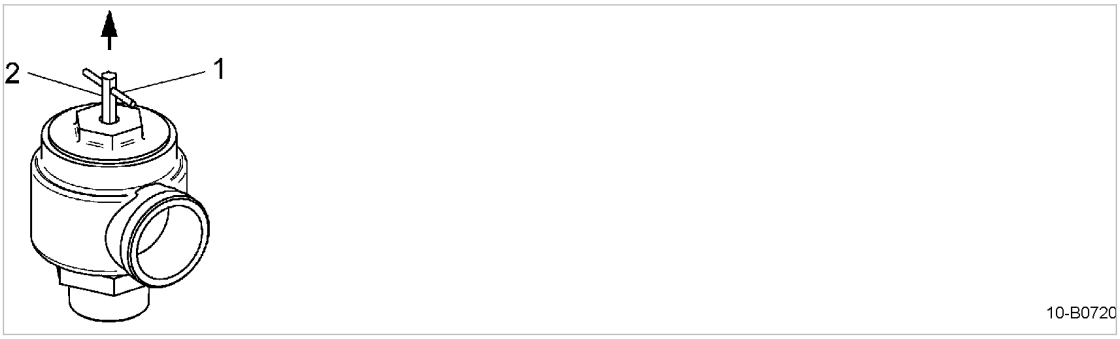


Fig. 39 Testing the safety relief valve
[1] Opening lever
[2] Tension rod

➢ Check for free movement of the tension rod [2] by pulling vertically by the opening lever [1].

The valve opens as soon as maximum working pressure is exceeded.

➢ Never operate the machine without a correctly functioning safety relief valve!

➢ Do **not** adjust the safety relief valve.

➢ Immediately replace a defective safety relief valve.

10.12 Documenting maintenance and service work

Machine equipment number:

➢ Enter any maintenance and service work carried out in the table below.

Date	Maintenance task carried out	Operating hours	Signature

Tab. 41 Logged maintenance tasks

11 Spares, Operating Materials, Service

11.1 Note the nameplate

The nameplate contains all information to identify your machine. This information is essential to us in order to provide you with optimal service.

➢ Please give the information from the nameplate with every inquiry and order for spares.

11.2 Ordering consumable parts and operating fluids/materials

KAESER consumable parts and operating fluids/materials have the same characteristics as the originals. They are specifically selected for use in KAESER machines.

⚠ WARNING

There is risk of personal injury or damage to the machine resulting from the use of unsuitable spare parts or operating fluids/materials.
Non-Kaeser parts and operating fluids/materials may be unsuitable or of poor quality and can damage the machine or impair its proper function.
Personal injury may result from damage.

➢ *Use only original KAESER parts and operating fluids/materials.*

➢ *Have an authorized KAESER SERVICE representative carry out regular repair and maintenance.*

Machine

Name	Number
Drive belt	1800
Air filter	1250
Lubricating oil	1600

Tab. 42 Consumable parts and operating fluids/materials

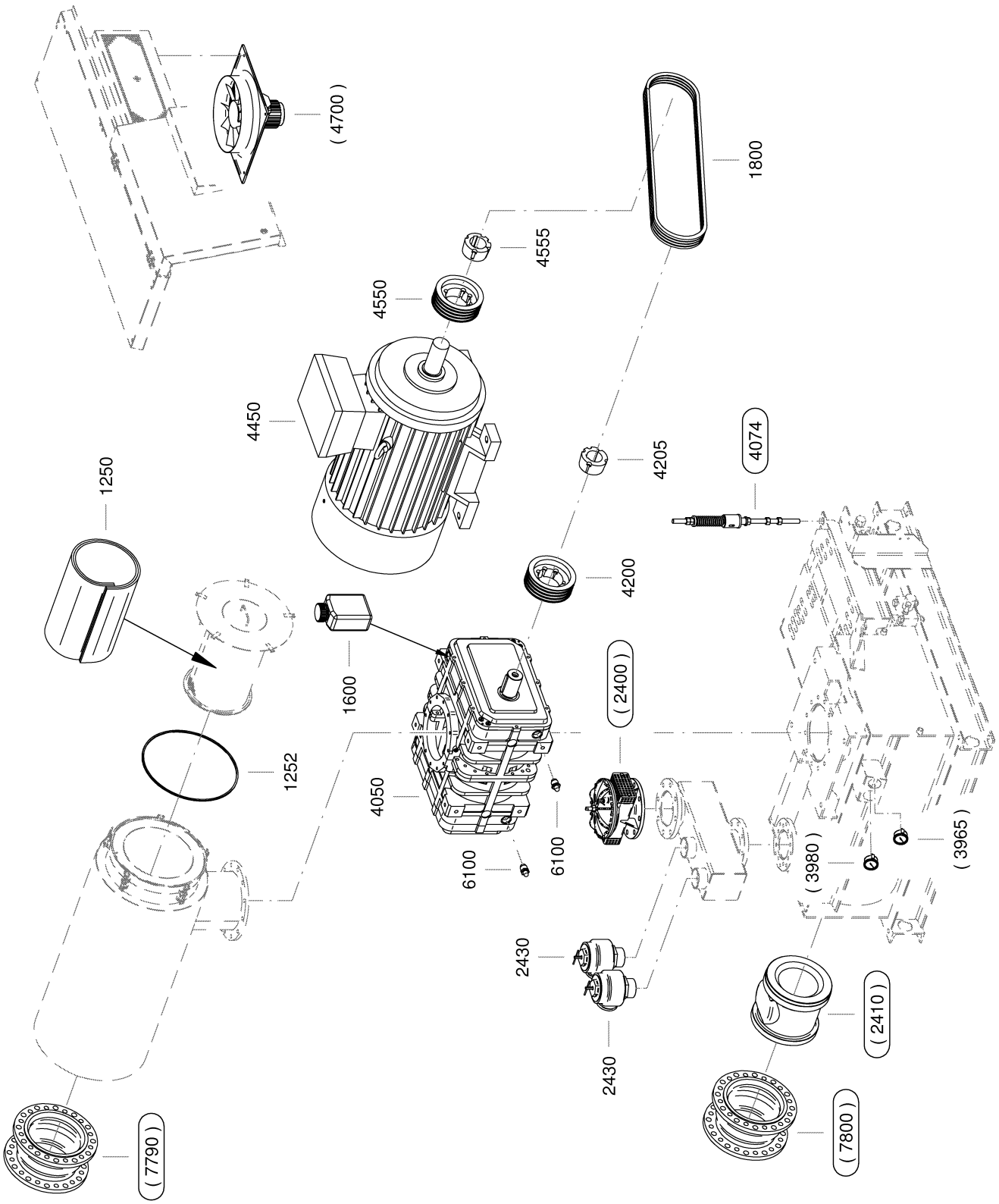
11.3 Spare parts for service and repair

With the help of this parts list you can plan your material requirement according to operating conditions and order the spare parts you need.

➢ Make sure that any inspection, service (preventive maintenance) or repair tasks not described in this manual are carried out by an authorized KAESER service representative.

Service-Kit (Option)

SEG-5476_01



Legend		KAESER
	HB 950 C pr	SEL-3906_01 E

Item	Description	Option
1250	Air filter insert	
1252	Inlet silencer gasket	
1600	OMEGA FLUID	
1800	Drive belt	
2400	Start control valve	X
2410	Check valve	X
2430	Pressure limiting valve	
3965	Temperature indicator	X
3980	Panel pressure indicator	X
4050	OMEGA blower block	
4074	Belt tensioner	
4200	Airend pulley	
4205	Tapered bushing, airend	
4450	Drive motor	
4550	Drive motor pulley	
4555	Tapered bushing, drive motor	
4700	Fan unit	X
6100	Oil level indicator	
7790	Compensator, air inlet	X
7800	Compensator, air outlet	X

Please quote the part number and serial number of the machine together with the item number and the description of the part when ordering.

Before and during all work, be sure to read and follow the safety and service instructions in the machine's service manual!

*) see cooling oil recommendations

11.4 KAESER AIR SERVICE

KAESER AIR SERVICE offers:

- authorized KAESER service representatives with KAESER factory training,
- increased operational reliability ensured by preventive maintenance,
- energy savings achieved by avoidance of pressure losses,
- optimum conditions for operation of the compressed air system,
- the security of genuine KAESER spare parts,
- increased legal certainty as all regulations are kept to.

➢ Why not sign a KAESER AIR SERVICE maintenance agreement!

Result Your advantage:
lower costs and higher compressed air availability.

11.5 Completing the contamination declaration

Every company (user) is responsible for the health and safety of its employees. This extends to personnel who carry out servicing work at the user or service contractor.

A Declaration of Contamination must be completed and signed whenever maintenance or repair work is to be carried out on the machine.

1. Contact KAESER SERVICE and request the contamination declaration form.
2. Attach a copy of the Declaration of Contamination to the **outside** of the packing.

12 Decommissioning, Storage and Transport

12.1 Decommissioning

Decommissioning is necessary under circumstances such as the following:

- The machine is (temporarily) not required.
- The machine is to be transported to another location.
- The machine is to be scrapped.

Temporary decommissioning

Precondition The machine can be started at regular intervals.

➢ Run the machine once per week, or once per day under unfavorable weather conditions, for a minimum of 30 minutes at operating temperature in order to ensure adequate corrosion protection.

Long-term decommissioning

Precondition The power supply disconnecting device is switched off,
lock out / tag out the device,
the absence of voltage has been verified.
The machine is fully vented.

1. Allow the machine to cool down completely.
2. Disconnect all connecting lines and the power supply.
3. Release the tension from the drive belt.
4. Spray the machine inside and out with a preserving agent to protect from corrosion.
5. Store the machine in a dry, frost-proof room.

Further information For information on preservative oils, see chapter 12.4.

12.2 Packing

A wooden crate is required for overland transport to protect the machine from mechanical damage.

Other measures must be taken for the transport of machines by sea or air. Please contact an authorized KAESER SERVICE for more information.

Material Protective plastic sheeting
Wooden transport crate

Precondition The machine is decommissioned.
The machine is dry and cooled down.

1. Wrap the machine fully in plastic sheeting.
2. Protect the machine in a wooden crate against mechanical damages.

12.3 Transport

12.3.1 Safety

Weight and center of gravity determine the most suitable method of transportation. Both are specified in the dimensional drawing in chapter 13.2.

Precondition Transport only by pallet truck, forklift truck or lifting gear by personnel trained in the safe transportation of loads.

➢ Ensure the danger area is clear of personnel.

12.3.2 Transport machine with a pallet truck or forklift truck

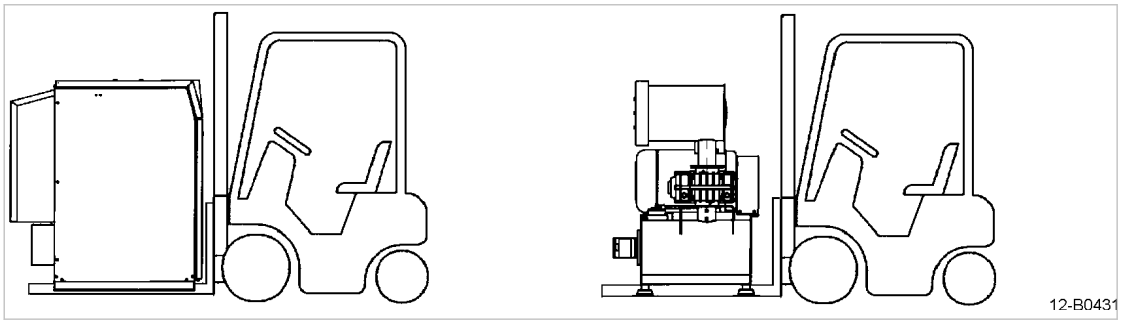


Fig. 40 Transport

1. Jack up machine if necessary.
2. Take note of the center of gravity.
3. Drive the pallet truck fully or forklift truck beneath the entire machine and transport with care.
4. Carry the wooden blocks with the machine to the new location.
5. Lower the machine onto the blocks.
6. Use the lever to lift the machine and remove the blocks.

12.4 Storage

Moisture can lead to corrosion, particularly on the surfaces of the blower block. The storage temperature must not fall below −86 °F.

Should you have any questions concerning the correct storage and recommissioning procedure, KAESER will be glad to assist you.

⚠ CAUTION

Rotating lobes!
Danger of crushing or severing limbs.

➢ *Do not reach into the interior of the blower block.*

➢ *If full protection is only provided when the machine is completely installed, then in all other phases of the machine's life-cycle temporary protective devices (e.g. covers) must be fitted, in order to guarantee that parts of the body cannot reach or be caught/sucked in by the rotary lobes.*

NOTICE

Moisture and frost can damage the machine.

➢ *Prevent the ingress of moisture and formation of condensation.*

➢ Store the machine in a dry, frost-proof room.
➢ Seal off the inlet and discharge ports to prevent the ingress of dirt.
➢ Every month, manually turn the motor shaft by approx. 30°.
➢ Change the lubricating oil annually.

After long-term storage

➢ Observe the procedures for assembly and initial commissioning.

12.5 Disposal

When disposing of a machine, drain out all liquids and remove old filters.

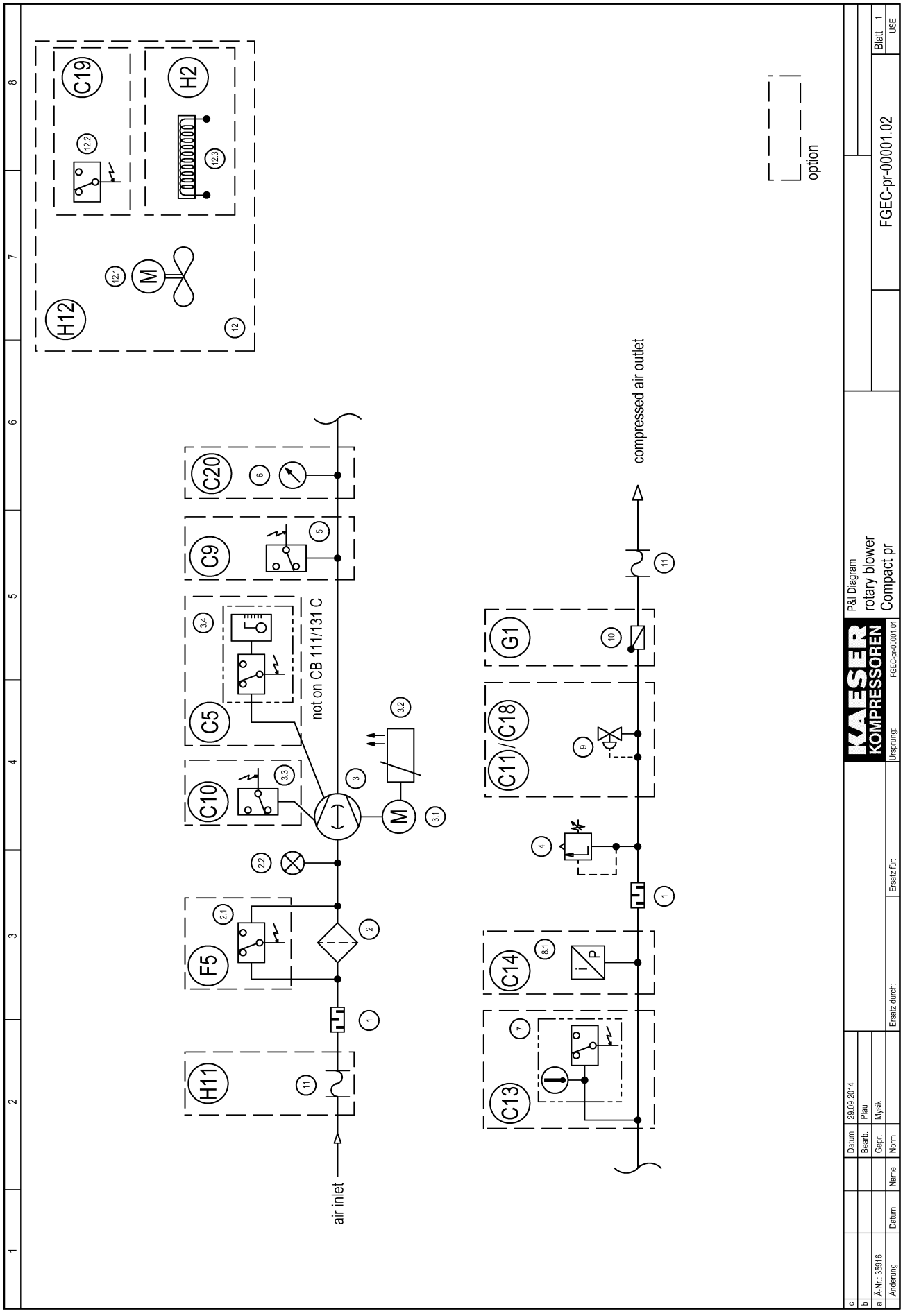
Precondition The machine is decommissioned.

1. Completely drain the oil from the machine.
2. Remove old filters.
3. Hand the machine over to an authorized disposal expert.

➢ Components contaminated with oil must be disposed of in accordance with local environmental protection regulations.

13 Annex

13.1 Pipeline and instrument flow diagram (P+I diagram)


option
compressed air outlet
air inlet
not on CB 111/131 C
H12
C19
H2
M
C20
C9
C5
C10
F5
H11
C11/C18
G1
C14
C13
P&I Diagram
rotary blower
Compact pr
FGEC-pr-00001.02
KAESER KOMPRESSOREN
Blatt 1
USE
Datum 29.09.2014
Bearb. Pfau
Gepr. Mysik
Norm
Name
Datum
Änderung
A-Nr.: 35916
Ersatz durch:
Ersatz für:
Ursprung:
FGEC-pr-00001.01

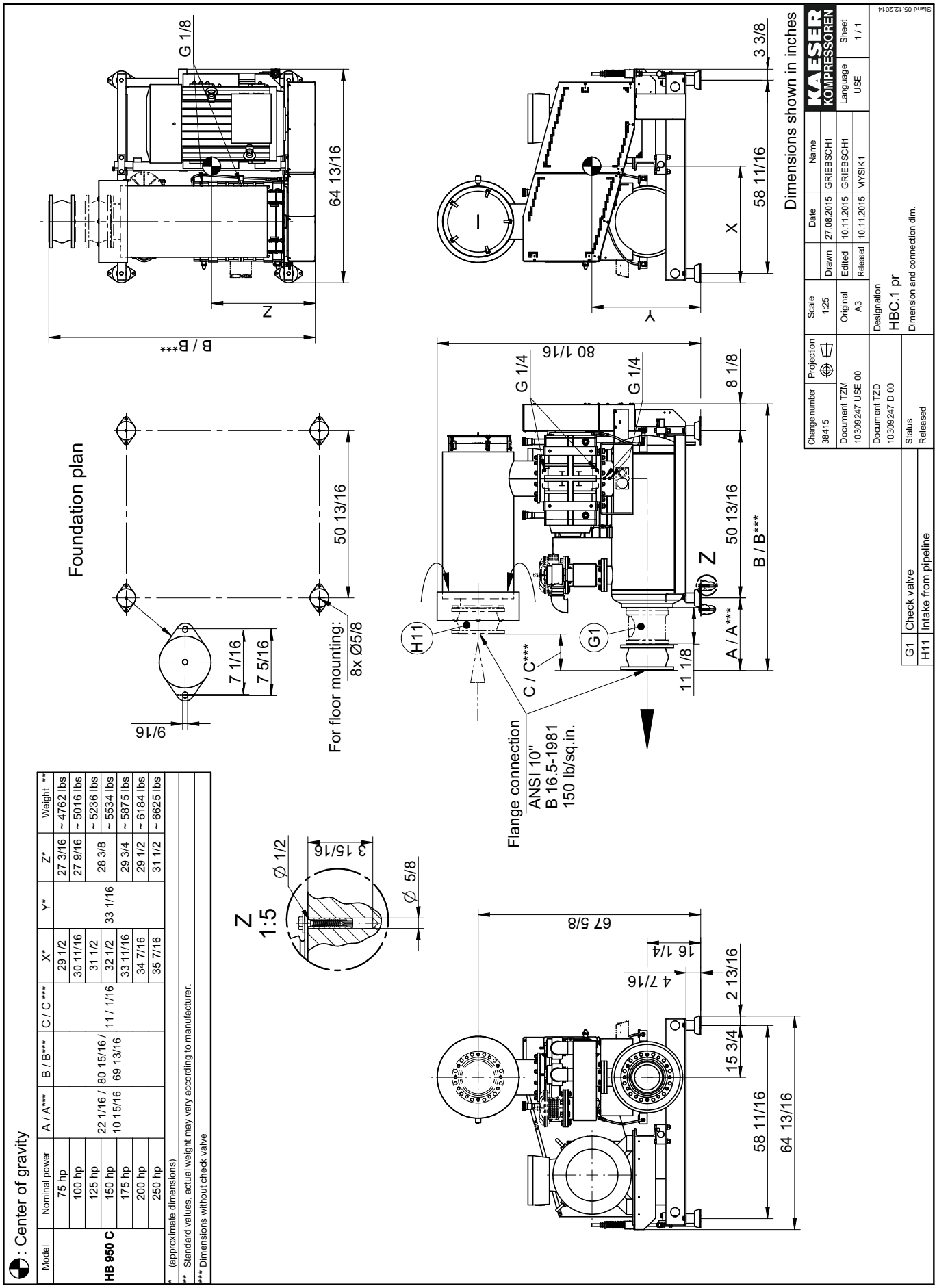
1	silencer
2	air filter
2.1	differential pressure switch
2.2	filter maintenance indicator
3	blower block
3.1	drive motor
3.2	PTC-sensor
3.3	speed monitor
3.4	oil-level sensor, switching
4	safety relief valve
5	pressure switch
6	pressure gauge
7	temperature gauge switch + indication
8.1	pressure transducer - system pressure
9	unloaded start valve or unloaded pressure control valve
10	check plate
11	compensator
12	sound enclosure
12.1	fan motor
12.2	thermostat
12.3	auxiliary cabinet heating

option

C5	oil level monitoring (not on CB 111/131 C)
C9	high pressure warning message
C10	speed monitor
C11	unloaded start valve
C13	temperature gauge switch
C14	pressure transducer
C18	start-up pressure control valve
C19	sound enclosure thermostat
C20	pressure indicator
F5	filter pressure differential monitoring
G1	check plate
H2	auxiliary cabinet heating
H11	piped inlet
H12	sound enclosure

c				Datum	29.09.2014		KAESER KOMPRESSOREN	P&I Diagram	
b				Bearb.	Plau			rotary blower	
a				Gepr.	Mysik			Compact pr	
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: FGEC-pr-00001.01	FGEC-pr-00001.02 Blatt 2 USE

13.2 Dimensional drawing



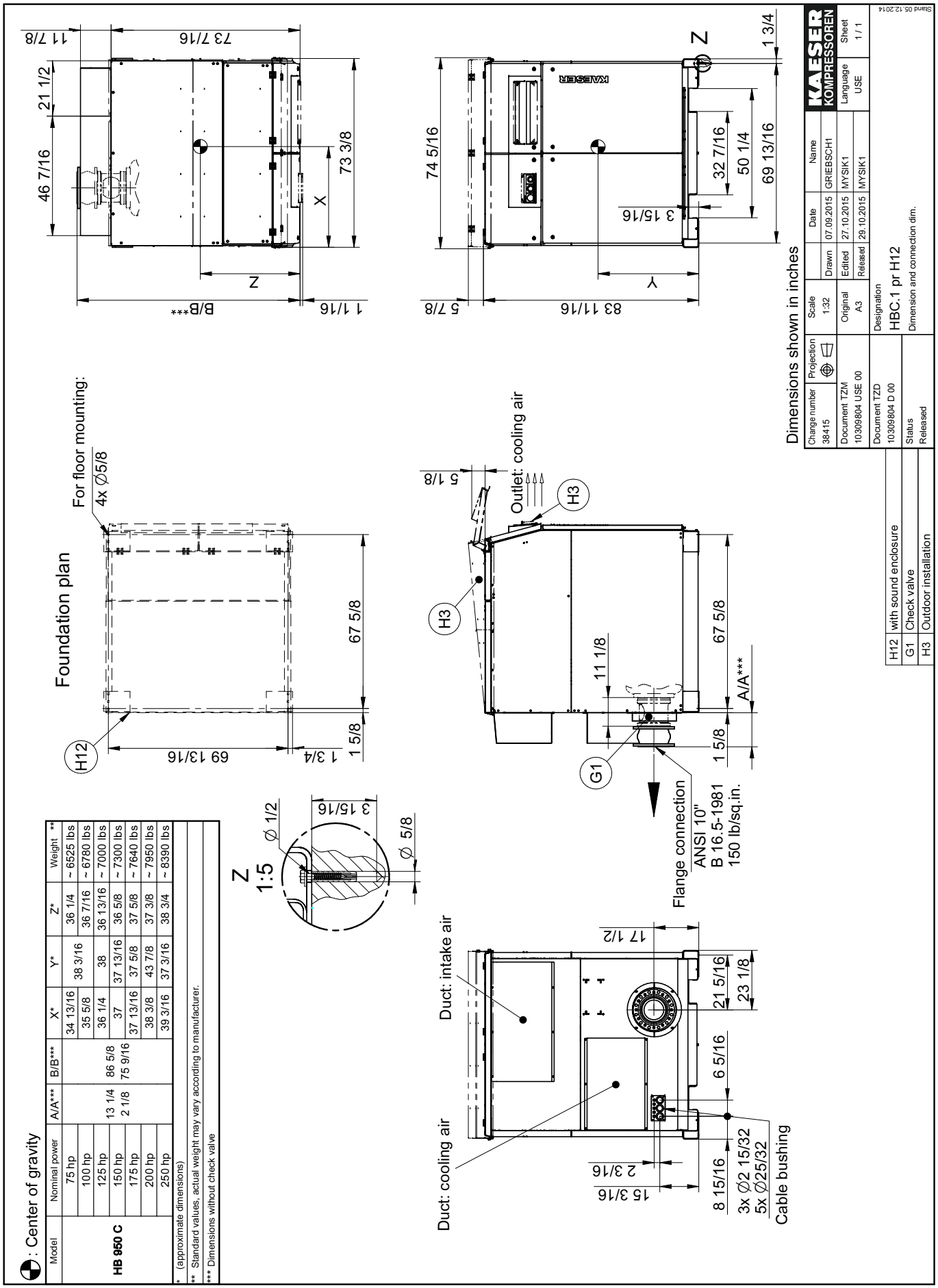
: Center of gravity

Model	Nominal power	A / A***	B / B***	C / C ***	X*	Y*	Z*	Weight **
HB 950 C	75 hp	22 1/16 / 10 15/16	80 15/16 / 69 13/16	11 / 1/16	29 1/2	33 1/16	27 3/16	~ 4762 lbs
	100 hp				30 11/16		27 9/16	~ 5016 lbs
	125 hp				31 1/2		28 3/8	~ 5236 lbs
	150 hp				32 1/2			~ 5534 lbs
	175 hp				33 11/16		29 3/4	~ 5875 lbs
	200 hp				34 7/16		29 1/2	~ 6184 lbs
	250 hp				35 7/16		31 1/2	~ 6625 lbs

* (approximate dimensions)

** Standard values, actual weight may vary according to manufacturer.

*** Dimensions without check valve



Model	Nominal power	A/A***	B/B***	X*	Y*	Z*	Weight **
HB 950 C	75 hp	13 1/4 – 2 1/8	86 5/8 – 75 9/16	34 13/16	38 3/16	36 1/4	~ 6525 lbs
	100 hp			35 5/8		36 7/16	~ 6780 lbs
	125 hp			36 1/4	38	36 13/16	~ 7000 lbs
	150 hp			37	37 13/16	36 5/8	~ 7300 lbs
	175 hp			37 13/16	37 5/8	37 5/8	~ 7640 lbs
	200 hp			38 3/8	43 7/8	37 3/8	~ 7950 lbs
	250 hp			39 3/16	37 3/16	38 3/4	~ 8390 lbs

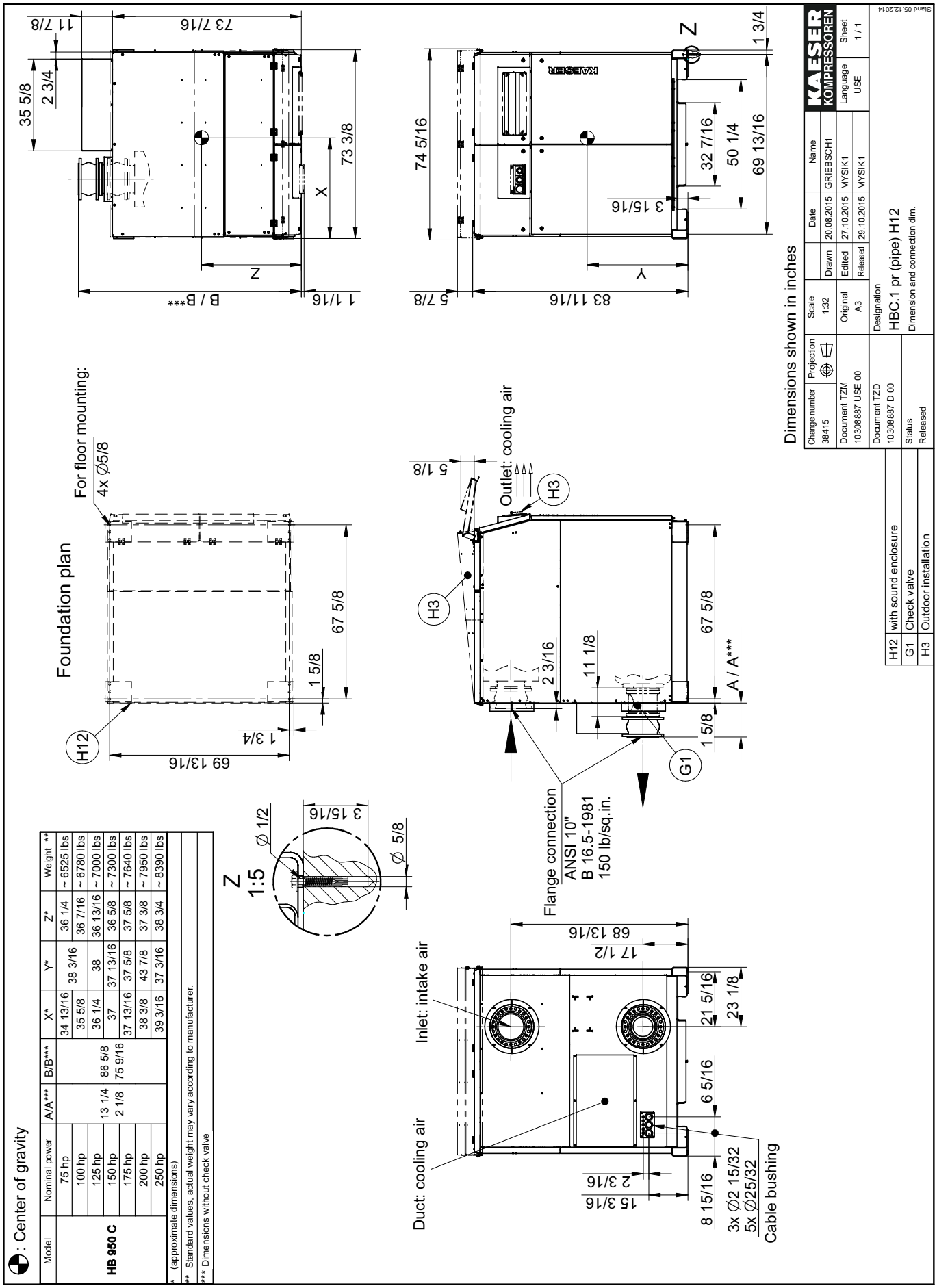
* (approximate dimensions)
** Standard values, actual weight may vary according to manufacturer.
*** Dimensions without check valve

H12	with sound enclosure
G1	Check valve
H3	Outdoor installation

Change number 38415	Projection	Scale 1:32		Date	Name
			Drawn	07.09.2015	GRIEBSCH1
Document TZM 10309804 USE 00		Original A3	Edited	27.10.2015	MYSIK1
			Released	29.10.2015	MYSIK1
Document TZD 10309804 D 00		Designation HBC.1 pr H12			
Status Released		Dimension and connection dim.			

KAESER KOMPRESSOREN | Language USE | Sheet 1 / 1

Stand 05.12.2014



: Center of gravity

Model	Nominal power	A/A***	B/B***	X*	Y*	Z*	Weight **
HB 950 C	75 hp	13 1/4 2 1/8	86 5/8 75 9/16	34 13/16	38 3/16	36 1/4	~ 6525 lbs
	100 hp			35 5/8		36 7/16	~ 6780 lbs
	125 hp			36 1/4	38	36 13/16	~ 7000 lbs
	150 hp			37	37 13/16	36 5/8	~ 7300 lbs
	175 hp			37 13/16	37 5/8	37 5/8	~ 7640 lbs
	200 hp			38 3/8	43 7/8	37 3/8	~ 7950 lbs
	250 hp			39 3/16	37 3/16	38 3/4	~ 8390 lbs

* (approximate dimensions)
** Standard values, actual weight may vary according to manufacturer.
*** Dimensions without check valve

Subject to development-related changes.
Drawing may be altered only via CAD.

13.3 Sound emission

The values for sound pressure levels and sound power levels are provided in the tables below: Each table discusses one compressor type.
The values applicable to the machine result from the combination of the blower block speed and the differential pressure.

If the texts of the tables are not provided in the chosen language, a translation can be found here.

	Table legend
a)	Type
b)	Without sound enclosure
c)	With sound enclosure
d)	Blower block speed
e)	Pressure differential
f)	Sound pressure level
g)	Sound power level

Tab. 43 Sound emission - legend

a) HB950C			b) without sound enclosure		c) with sound enclosure	
d) block speed	e) pressure differential		f) sound level	g) sound power level	f) sound level	g) sound power level
[min^{-1}]	[mbar]	[psi]	[dB(A)]	[dB(A)]	[dB(A)]	[dB(A)]
			± 3 dB(A)	± 3 dB(A)	± 3 dB(A)	± 3 dB(A)
1250	200	3	94	112	77	95
1250	300	4	94	112	77	95
1250	400	6	95	112	77	95
1250	500	7	95	113	77	95
1250	600	9	96	114	77	96
1250	700	10	96	114	77	96
1250	800	12	96	114	77	96
1250	900	13	98	115	79	97
1250	1000	15	98	116	79	98
1375	200	3	94	112	77	95
1375	300	4	95	112	77	95
1375	400	6	95	113	77	95
1375	500	7	96	113	77	95
1375	600	9	97	114	78	96
1375	700	10	97	114	78	96
1375	800	12	97	114	78	96
1375	900	13	98	115	79	97
1375	1000	15	99	116	80	98
1480	200	3	95	112	77	95
1480	300	4	95	112	77	95
1480	400	6	95	113	77	95
1480	500	7	96	113	77	95
1480	600	9	97	114	78	96
1480	700	10	97	114	78	96
1480	800	12	97	114	78	96
1480	900	13	98	116	79	97
1480	1000	15	99	116	80	98
1660	200	3	95	113	77	95
1660	300	4	95	113	77	95
1660	400	6	96	113	77	95
1660	500	7	96	114	77	96
1660	600	9	97	115	78	96
1660	700	10	97	115	78	96
1660	800	12	97	115	78	96
1660	900	13	98	116	79	97
1660	1000	15	99	117	80	98
1750	200	3	95	113	77	95
1750	300	4	95	113	77	95
1750	400	6	96	114	77	95
1750	500	7	97	114	78	96
1750	600	9	97	115	78	97
1750	700	10	97	115	78	97
1750	800	12	97	115	78	97
1750	900	13	98	116	79	98
1750	1000	15	99	117	80	98
1880	200	3	96	113	77	95
1880	300	4	96	113	77	95
1880	400	6	96	114	77	96
1880	500	7	97	114	78	96
1880	600	9	98	115	79	97
1880	700	10	98	115	79	97
1880	800	12	98	115	79	97
1880	900	13	99	116	80	98
1880	1000	15	99	117	80	99
1980	200	3	96	113	77	95
1980	300	4	96	113	77	95
1980	400	6	97	114	78	96
1980	500	7	97	115	78	96
1980	600	9	98	115	79	97
1980	700	10	98	115	79	97

a) HB950C			b) without sound enclosure		c) with sound enclosure	
d) block speed	e) pressure differential		f) sound level	g) sound power level	f) sound level	g) sound power level
[min^{-1}]	[mbar]	[psi]	[dB(A)]	[dB(A)]	[dB(A)]	[dB(A)]
			± 3 dB(A)	± 3 dB(A)	± 3 dB(A)	± 3 dB(A)
1980	800	12	98	115	79	97
1980	900	13	99	116	80	98
1980	1000	15	100	117	81	99
2100	200	3	96	114	77	95
2100	300	4	96	114	77	95
2100	400	6	97	114	78	96
2100	500	7	97	115	78	96
2100	600	9	98	116	79	97
2100	700	10	98	116	79	97
2100	800	12	98	116	79	97
2100	900	13	99	116	80	98
2100	1000	15	100	117	81	99
2220	200	3	96	114	77	95
2220	300	4	96	114	77	96
2220	400	6	97	115	78	96
2220	500	7	97	115	78	97
2220	600	9	98	116	79	97
2220	700	10	98	116	79	97
2220	800	12	98	116	79	97
2220	900	13	99	117	80	98
2220	1000	15	100	118	81	99
2360	200	3	97	114	78	96
2360	300	4	97	114	78	96
2360	400	6	98	115	79	97
2360	500	7	98	115	79	97
2360	600	9	98	116	79	98
2360	700	10	98	116	79	98
2360	800	12	98	116	79	98
2360	900	13	99	117	80	98
2360	1000	15	100	118	81	99
2475	200	3	97	114	78	96
2475	300	4	97	114	78	96
2475	400	6	98	115	79	97
2475	500	7	98	116	79	97
2475	600	9	99	116	80	98
2475	700	10	99	116	80	98
2475	800	12	99	116	80	98
2475	900	13	99	117	80	99
2475	1000	15	100	118	81	99
2645	200	3	97	115	78	96
2645	300	4	97	115	78	96
2645	400	6	98	116	79	97
2645	500	7	98	116	79	97
2645	600	9	99	116	80	98
2645	700	10	99	116	80	98
2645	800	12	99	116	80	98
2645	900	13	100	117	81	99
2645	990	14	101	118	81	99
2800	200	3	98	115	79	97
2800	300	4	98	115	79	97
2800	400	6	99	116	80	98
2800	500	7	99	116	80	98
2800	600	9	99	117	80	98
2800	700	10	99	117	80	98
2800	800	12	99	117	80	98
2800	900	13	100	117	81	99
2800	990	14	101	118	81	99
2960	200	3	98	115	79	97
2960	300	4	98	115	79	97
2960	400	6	99	117	80	98

a) HB950C			b) without sound enclosure		c) with sound enclosure	
d) block speed	e) pressure differential		f) sound level	g) sound power level	f) sound level	g) sound power level
[min^{-1}]	[mbar]	[psi]	[dB(A)]	[dB(A)]	[dB(A)]	[dB(A)]
			± 3 dB(A)	± 3 dB(A)	± 3 dB(A)	± 3 dB(A)
2960	500	7	99	116	80	98
2960	600	9	99	117	80	98
2960	700	10	99	117	80	99
2960	800	12	99	117	80	99
2960	900	13	100	118	81	99
2960	990	14	101	119	81	99

13.4 Drive motor electrical diagram

The connection diagram is a common diagram for the main voltage and frequency.

Wiring Diagram

drive motor

voltage / power supply

Wiring variants

motor option
Power supply:
WYE system with center point solidly grounded

The document gives collective information on
power supply voltages and frequencies for all machines.
The voltage and frequency and local conditions under
which any particular machine may be used
are given on the nameplate of the machine
and in the accompanying service manual.

manufacturer: KAESER KOMPRESSOREN SE
Postfach 2143
96410 Coburg

c				Datum	16.10.2018 USE		KAESER KOMPRESSOREN	cover page drive motor		=
b				Bearbeiter	M.Zeeh					+
a				Geprüft	M.Zeeh					
A	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:	DXB.SSG-03022.03	page 1 / 1 Bl.

Lfd. Nr. No.	Benennung Name		Zeichnungsnummer (Kunde) Drawing No. (customer)	Zeichnungsnummer (Hersteller) Drawing No. (manufacturer)	Blatt Page	Anlagenkennzeichen Unit designation
1	cover page			DXB.SSG-03022.03	1	
2	list of contents			ZXB.SSG-03022.03	1	
3	Wiring Diagram	mains voltage 6 terminals		SXB.SSG-03022.03	1	
4	Wiring Diagram	Wiring variants 6 terminals		SXB.SSG-03022.03	2	
5	Wiring Diagram	mains voltage 9 terminals		SXB.SSG-03022.03	3	
6	Wiring Diagram	Wiring variants 9 terminals		SXB.SSG-03022.03	4	
7	Wiring Diagram	mains voltage 12 terminals		SXB.SSG-03022.03	5	
8	Wiring Diagram	Wiring variants 12 terminals		SXB.SSG-03022.03	6	
9	Wiring Diagram	option		SXB.SSG-03022.03	7	

c				Datum	16.10.2018		KAESER KOMPRESSOREN	list of contents		=
b				Bearbeiter	M.Zeeh					+
a				Geprüft	M.Zeeh					
B	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:	ZXB.SSG-03022.03	page 1 1 Bl.

drive motor 6 terminals

voltage	50Hz power supply			60Hz power supply		
	wye-delta start Y/D	direct on line start D	direct on line start Y	wye-delta start Y/D	direct on line start D	direct on line start Y
200V D - 50Hz	200V	200V				
200V D - 60Hz				200V	200V	
208V D / 360V Y - 60Hz				208V	208V	360V
220V D / 380V Y - 50Hz	220V	220V	380V			
220V D / 380V Y - 60Hz				220V	220V	380V
230V D / 400V Y - 50Hz	230V	400V	400V			
460V Y - 60Hz						460V
240V D / 415V Y - 50Hz	240V	240V	415V			
380V D - 50Hz	380V	380V				
380V D - 60Hz				380V	380V	
380V D / 660V Y - 50Hz	380V	380V	660V			
380V D / 660V Y - 60Hz				380V	380V	660V
400V D - 50Hz	400V	400V				
460V D - 60Hz				460V	460V	
400V D / 690V Y - 50Hz	400V	400V	690V			
460V Δ - 60Hz				460V	460V	
400V D - 60Hz				400V	400V	
415V D - 50Hz	415V	415V				
440V D - 60Hz				440V	440V	
460V D - 60Hz				460V	460V	
480V D - 60Hz				480V	480V	
500V D - 50Hz	500V	500V				
575V D - 60Hz				575V	575V	
535V D - 50Hz	535V	535V				
550V D - 50Hz	550V	550V				
550V D - 60Hz				550V	550V	
660V D - 50Hz	660V	660V				
690V D - 50Hz	690V	690V				
690V Y - 50Hz			690V			
690V D - 60Hz				690V	690V	
690V Y - 60Hz						690V

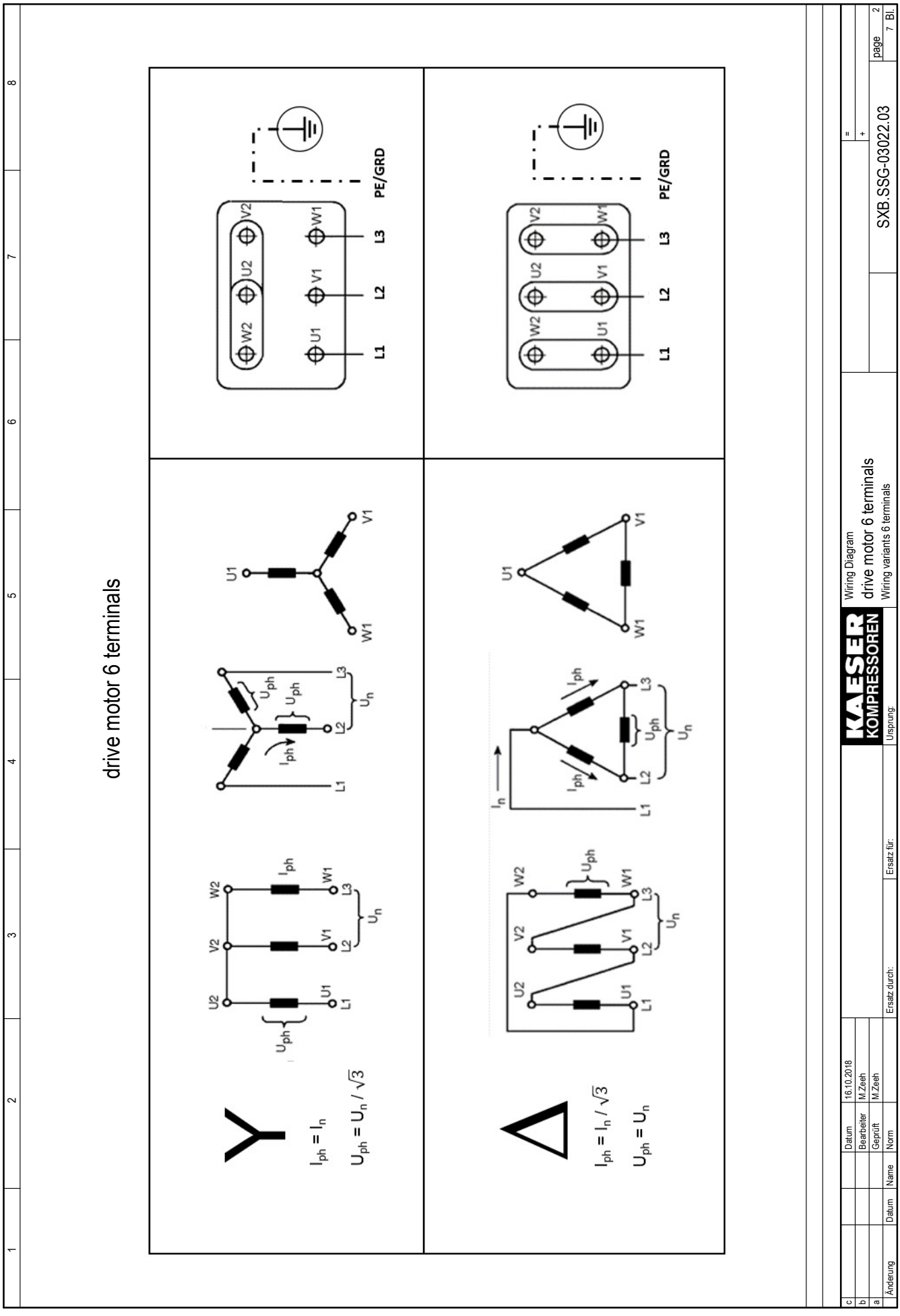
c				Datum	16.10.2018			
b				Bearbeiter	M.Zeeh			
a				Geprüft	M.Zeeh			
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:

KAESER KOMPRESSOREN

Wiring Diagram
drive motor 6 terminals
mains voltage 6 terminals

SXB.SSG-03022.03

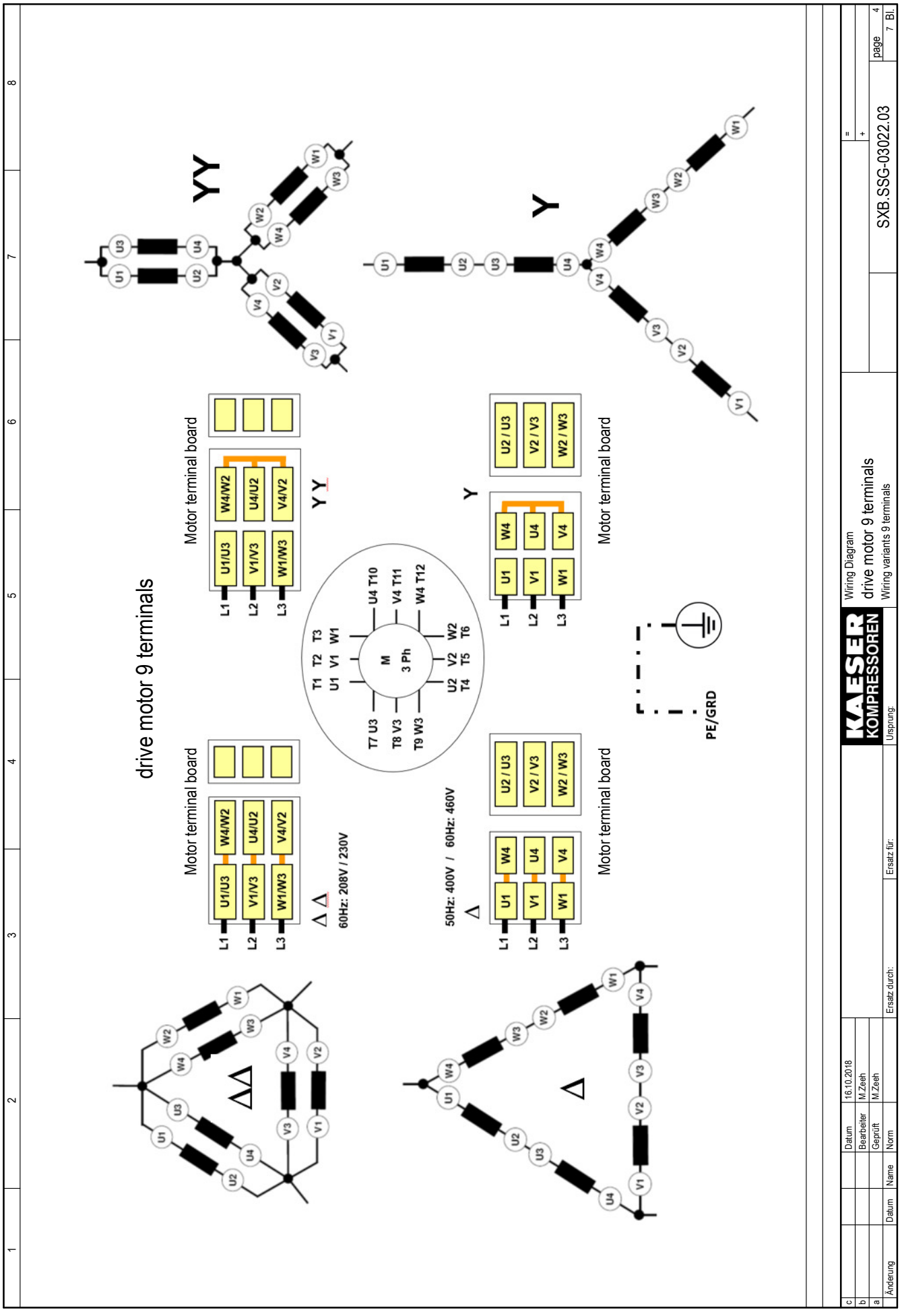
page 1
7 Bl.


drive motor 6 terminals
PE/GRD
L1
L2
L3
U1
V1
W1
U2
V2
W2
$I_{ph} = I_n$
$U_{ph} = U_n / \sqrt{3}$
$I_{ph} = I_n / \sqrt{3}$
$U_{ph} = U_n$
I_n
I_{ph}
U_{ph}
U_n
Wiring Diagram
drive motor 6 terminals
Wiring variants 6 terminals
SXB.SSG-03022.03
page 2
7 Bl.
Datum 16.10.2018
Bearbeiter M.Zeeh
Geprüft M.Zeeh
Norm
Ersatz durch:
Ersatz für:
Ursprung:
Änderung Datum Name

drive motor 9 terminals

voltage	50Hz power supply		60Hz power supply	
	Y/D	direct on line start	Y/D	direct on line start
208V DD - 60Hz			**208V YY/DD**	**208V DD**
230V DD - 60Hz			**230V YY/DD**	**230V DD**
400V D - 50Hz	**400V Y/D**	**400V D**		
460V D - 60Hz			**460V Y/D**	**460V D**

c				Datum	16.10.2018		Wiring Diagram	=
b				Bearbeiter	M.Zeeh	KAESER KOMPRESSOREN	drive motor 9 terminals	+
a				Geprüft	M.Zeeh		mains voltage 9 terminals	page 3
	Änderung	Datum	Name	Norm		Ersatz durch: / Ersatz für: / Ursprung:	SXB.SSG-03022.03	7 Bl.

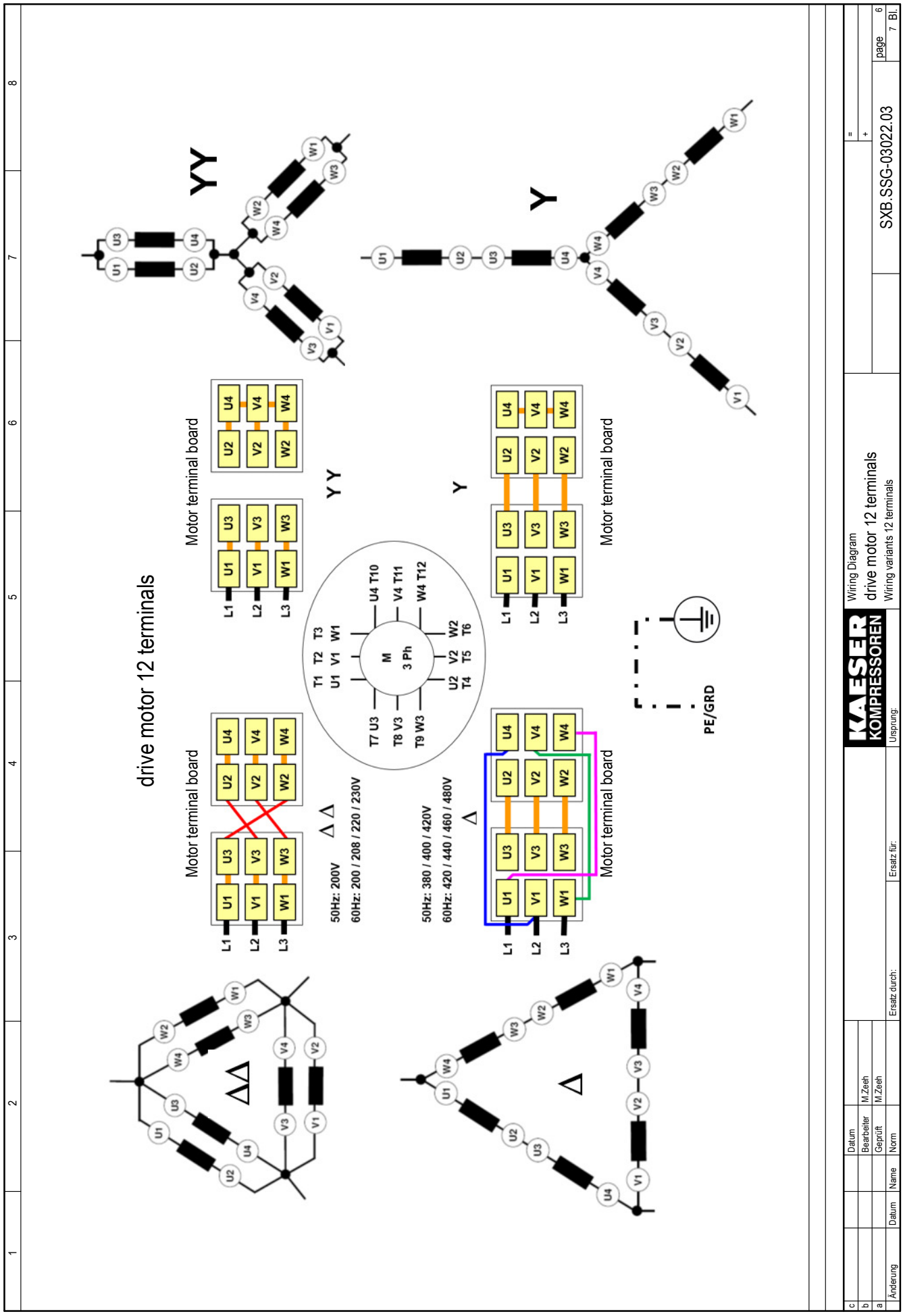

drive motor 9 terminals
YY
Y
Motor terminal board
U1/U3
W4/W2
U4/U2
V4/V2
V1/V3
W1/W3
L1
L2
L3
Y Y
Y
U2 / U3
V2 / V3
W2 / W3
W4
U4
V4
U1
V1
W1
M
3 Ph
T1 T2 T3
U1 V1 W1
U4 T10
V4 T11
W4 T12
W2
V2
U2
T6
T5
T4
T7 U3
T8 V3
T9 W3
PE/GRD
60Hz: 208V / 230V
50Hz: 400V / 60Hz: 460V
KAESER KOMPRESSOREN
Wiring Diagram
drive motor 9 terminals
Wiring variants 9 terminals
SXB.SSG-03022.03
page 4
7 Bl.
Datum 16.10.2018
Bearbeiter M.Zeeh
Geprüft M.Zeeh
Name
Norm
Ersatz durch:
Ersatz für:
Ursprung:
Änderung
Datum

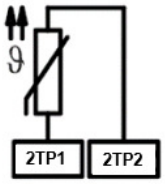
1	2	3	4	5	6	7	8

drive motor 12 terminals

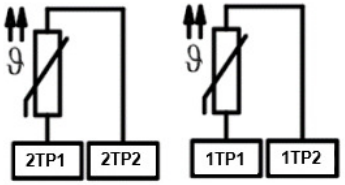
voltage	50Hz power supply		60Hz power supply	
	Y/D	direct on line start	Y/D	direct on line start
200V DD - 50Hz	**200V YY/DD**	**200V DD**		
200V DD - 60Hz			**200V YY/DD**	**200V DD**
208V DD - 60Hz			**208V YY/DD**	**208V DD**
220V DD - 60Hz			**220V YY/DD**	**220V DD**
230V DD - 60Hz			**230V YY/DD**	**230V DD**
380V D - 50Hz	**380V Y/D**	**380V D**		
400V D - 50Hz	**400V Y/D**	**400V D**		
420V D - 50Hz	**420V Y/D**	**420V D**		
420V D - 60Hz			**420V Y/D**	**420V D**
440V D - 60Hz			**440V Y/D**	**440V D**
460V D - 60Hz			**460V Y/D**	**460V D**
480V D - 60Hz			**480V Y/D**	**480V D**

c				Datum			KAESER KOMPRESSOREN	Wiring Diagram	=
b				Bearbeiter	M.Zeeh			drive motor 12 terminals	+
a				Geprüft	M.Zeeh				
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:	mains voltage 12 terminals	SXB.SSG-03022.03	page 5 / 7 Bl.

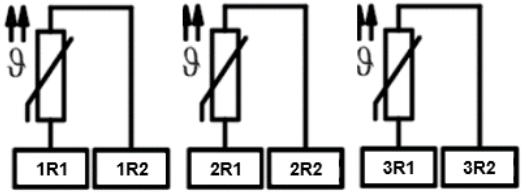

drive motor 12 terminals
YY
Y
Motor terminal board
Motor terminal board
Motor terminal board
Motor terminal board
Y Y
Y
ΔΔ
Δ
50Hz: 200V
60Hz: 200 / 208 / 220 / 230V
50Hz: 380 / 400 / 420V
60Hz: 420 / 440 / 460 / 480V
M
3 Ph
PE/GRD
ΔΔ
Δ
KAESER KOMPRESSOREN
Wiring Diagram
drive motor 12 terminals
Wiring variants 12 terminals
SXB.SSG-03022.03
page 6
7 Bl.
Datum
Bearbeiter
Geprüft
Norm
M.Zeeh
M.Zeeh
Name
Datum
Änderung
Ersatz durch:
Ersatz für:
Ursprung:



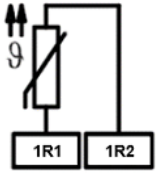
3x PTC (shutdown)
"voltage maximum 2,5V"



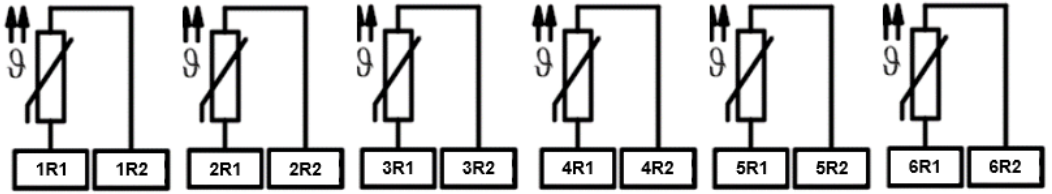
2x 3x PTC (shutdown +warning)
"voltage maximum 2,5V"



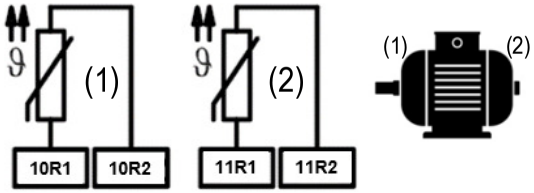
3x PT100 (temperature winding)



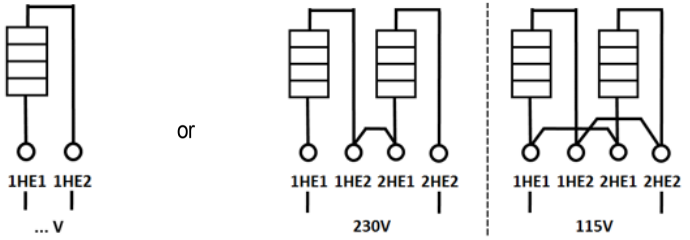
1x PT100 (temperature winding)



6x PT100 (temperature winding)



(1) Motor bearing monitoring, D end
(2) Motor bearing monitoring, N-end



motor heating

c				Datum	16.10.2018		KAESER KOMPRESSOREN	Wiring Diagram	=	
b				Bearbeiter	M.Zeeh			drive motor	+	
a				Geprüft	M.Zeeh			option	SXB.SSG-03022.03	page 7
	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:		7 Bl.

13.5 Electrical diagrams for options

Electrical diagrams for the options available for your machine are given in the following.

13.5.1 Option C5
Oil level monitoring – wiring diagram

Schaltungsunterlagen

Electrical diagrams

Gebläse/Blower

Ölstandswächter/Oil level monitoring

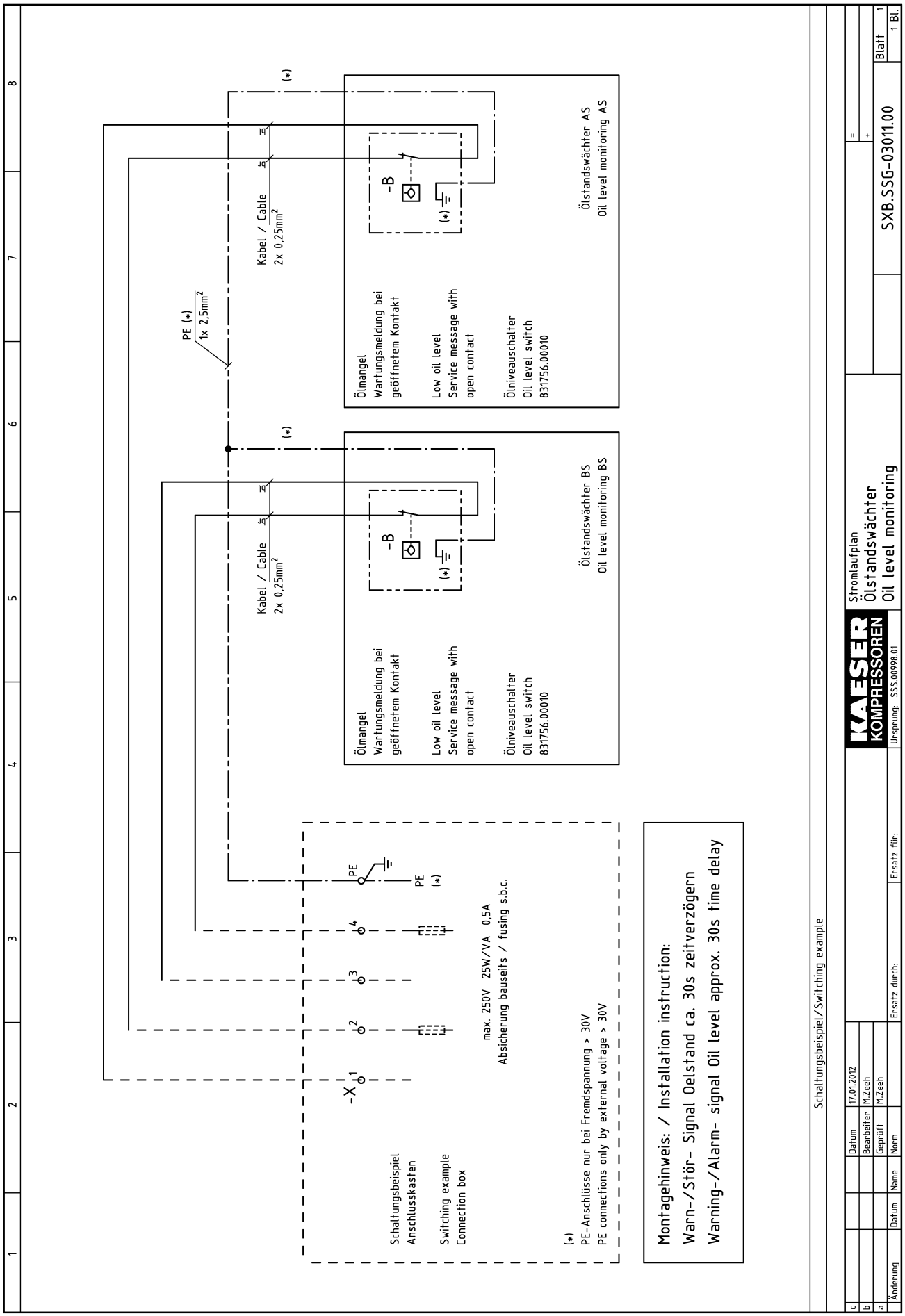
TT/TN-Netz mit geerdetem Sternpunkt
TT/TN power supply with common point grounding

Hersteller: KAESER KOMPRESSOREN GmbH
Postfach 2143
96410 Coburg

Dieses Dokument beinhaltet einen Sammelplan für alle hier aufgeführten Anlagentypen, Netzspannungen und Frequenzen. Unter welchen tatsächlichen Spannungen, Frequenzen und Umgebungsbedingungen die jeweilige Anlage ausschließlich betrieben werden darf, ist dem Typenschild der Anlage sowie der beiliegenden Betriebsanleitung zu entnehmen.

The document gives collective information on power supply voltages and frequencies for all machines. The voltage and frequency and local conditions under which any particular machine may be used are given on the nameplate of the machine and in the accompanying service manual.

c				Datum	17.01.2012 D		KAESER KOMPRESSOREN	Deckblatt		=
b				Bearbeiter	M.Zeeh			Ölstandswächter		+
a				Geprüft	M.Zeeh			Oil level monitoring	SXB.DSG-03011.00	Blatt 1
A	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung:		1 Bl.


Schaltungsbeispiel/Switching example
Stromlaufplan
Ölstandswächter
Oil level monitoring
KAESER KOMPRESSOREN
SXB.SSG-03011.00
Blatt 1
1 Bl.
Ursprung: SSS.00998.01
Ersatz für:
Ersatz durch:
Datum 17.01.2012
Bearbeiter M.Zeeh
Geprüft M.Zeeh
Norm
Name
Datum
Änderung
Ölstandswächter AS
Oil level monitoring AS
Ölstandswächter BS
Oil level monitoring BS
Ölmangel
Wartungsmeldung bei
geöffnetem Kontakt
Low oil level
Service message with
open contact
Öliveauschalter
Oil level switch
831756.00010
Kabel / Cable
2x 0,25mm²
PE (*)
1x 2,5mm²
-B
-X1
PE
(*)
max. 250V 25W/VA 0,5A
Absicherung bauseits / fusing s.b.c.
Schaltungsbeispiel
Anschlusskasten
Switching example
Connection box
(*)
PE-Anschlüsse nur bei Fremdspannung > 30V
PE connections only by external voltage > 30V
Montagehinweis: / Installation instruction:
Warn-/Stör- Signal Oelstand ca. 30s zeitverzögern
Warning-/Alarm- signal Oil level approx. 30s time delay

13.5.2 Option C9
Pressure switch wiring diagram

Fig. 41 Pressure switch wiring diagram

[1] Supply
[2] Break contact
[3] Make contact

13.5.3 Option C10
Speed monitor wiring diagram

Sensor / evaluation device

Fig. 42 Speed monitor wiring diagram

13.5.4 Option C13
Temperature gauge switch wiring diagram

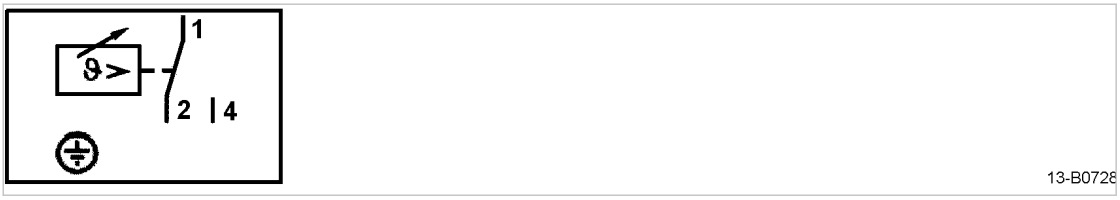


Fig. 43 Temperature gauge switch wiring diagram

13.5.5 Option C14
Pressure sensor connections

Fig. 44 Pressure sensor connections

[A] Power supply
[B] Evaluation/display

13.5.6 Option C19
Thermostat wiring diagram

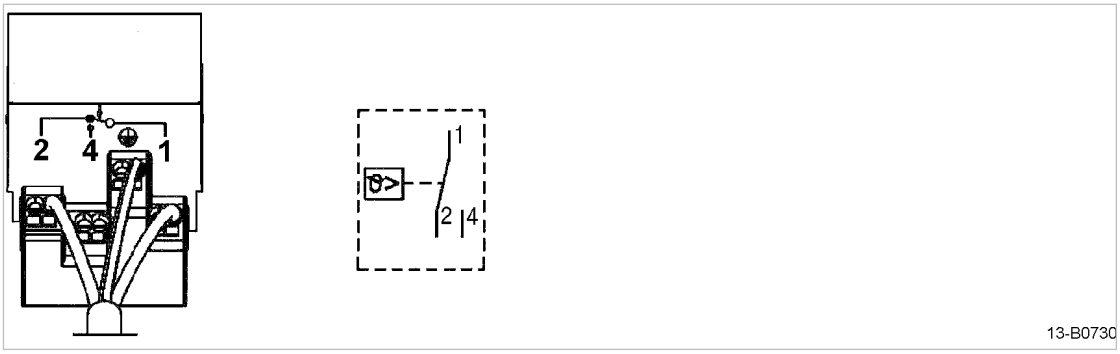


Fig. 45 Thermostat wiring diagram

13.5.7 Option F5
Filter pressure differential switch wiring diagram

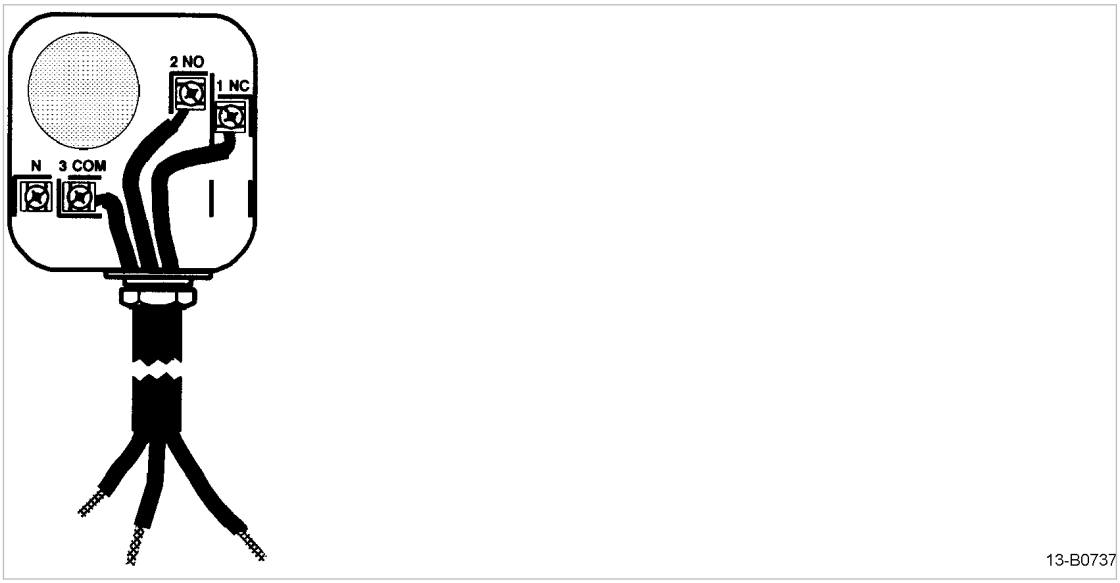


Fig. 46 Filter pressure differential switch wiring diagram

13.5.8 Option H2
Auxiliary heater wiring diagram

Schaltungsunterlagen

Electrical diagrams

Gebläse/Blower

Heizung/Heater - 115...127V 50/60Hz

TT/TN-Netz mit geerdetem Sternpunkt
TT/TN power supply with common point grounding

Hersteller: KAESER KOMPRESSOREN GmbH
Postfach 2143
96410 Coburg

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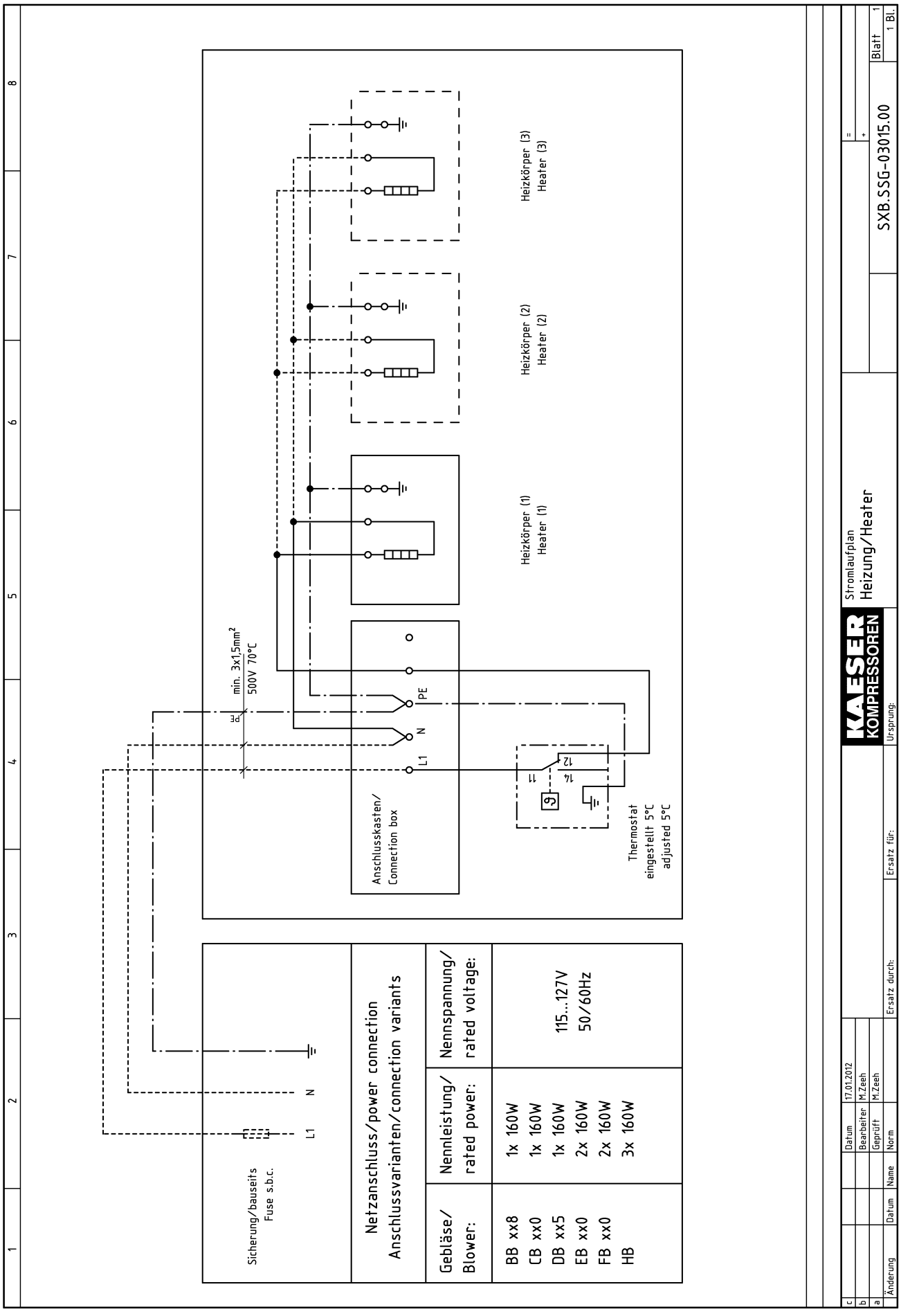
c				Datum	17.01.2012 D		KAESER KOMPRESSOREN	Deckblatt Heizung/Heater	=
b				Bearbeiter	M.Zeeh				+
a				Geprüft	M.Zeeh				
A	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: SSS-01081	SXB.DSG-03015.00	Blatt 1 / 1 Bl.


Netzanschluss/power connection
Anschlussvarianten/connection variants
Gebläse/ Blower:
Nennleistung/ rated power:
Nennspannung/ rated voltage:
BB xx8 1x 160W
CB xx0 1x 160W
DB xx5 1x 160W
EB xx0 2x 160W
FB xx0 2x 160W
HB 3x 160W
115...127V
50/60Hz
Sicherung/bauseits
Fuse s.b.c.
L1
N
min. 3x1,5mm²
500V 70°C
PE
Anschlusskasten/
Connection box
Heizkörper (1)
Heater (1)
Heizkörper (2)
Heater (2)
Heizkörper (3)
Heater (3)
Thermostat
eingestellt 5°C
adjusted 5°C
Stromlaufplan
Heizung/Heater
SXB.SSG-03015.00
Blatt 1
1 Bl.
Datum 17.01.2012
Bearbeiter M.Zeeh
Geprüft M.Zeeh
Ersatz durch:
Ersatz für:
Ursprung:
Änderung Datum Name Norm

1	2	3	4	5	6	7	8

Schaltungsunterlagen

Electrical diagrams

Gebläse/Blower

Heizung/Heater - 208...230V 50/60Hz

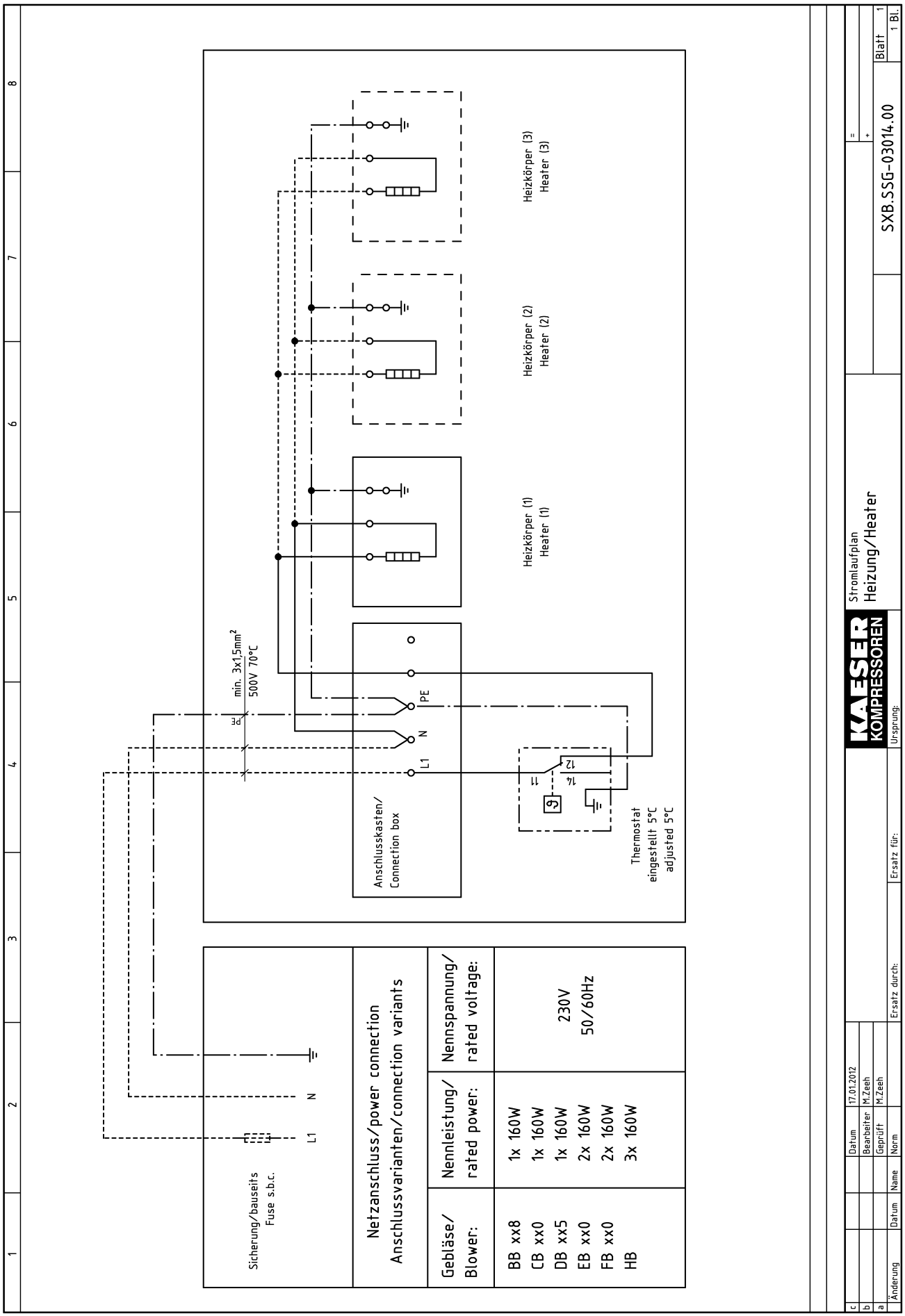
TT/TN-Netz mit geerdetem Sternpunkt
TT/TN power supply with common point grounding

Hersteller: KAESER KOMPRESSOREN GmbH
Postfach 2143
96410 Coburg

Dieses Dokument beinhaltet einen Sammelplan für alle hier aufgeführten Anlagentypen, Netzspannungen und Frequenzen. Unter welchen tatsächlichen Spannungen, Frequenzen und Umgebungsbedingungen die jeweilige Anlage ausschließlich betrieben werden darf, ist dem Typenschild der Anlage sowie der beiliegenden Betriebsanleitung zu entnehmen.

The document gives collective information on power supply voltages and frequencies for all machines. The voltage and frequency and local conditions under which any particular machine may be used are given on the nameplate of the machine and in the accompanying service manual.

c				Datum	17.01.2012 D		KAESER KOMPRESSOREN	Deckblatt Heizung/Heater		=
b				Bearbeiter	M.Zeeh					+
a				Geprüft	M.Zeeh					
A	Änderung	Datum	Name	Norm		Ersatz durch:	Ersatz für:	Ursprung: SSS-01081	SXB.DSG-03014.00	Blatt 1 / 1 Bl.


Netzanschluss/power connection
Anschlussvarianten/connection variants
Gebläse/ Blower:
Nennleistung/ rated power:
Nennspannung/ rated voltage:
BB xx8 1x 160W
CB xx0 1x 160W
DB xx5 1x 160W
EB xx0 2x 160W
FB xx0 2x 160W
HB 3x 160W
230V 50/60Hz
Sicherung/bauseits Fuse s.b.c.
L1
N
PE
min. 3x1,5mm²
500V 70°C
Anschlusskasten/ Connection box
Heizkörper (1) Heater (1)
Heizkörper (2) Heater (2)
Heizkörper (3) Heater (3)
Thermostat eingestellt 5°C adjusted 5°C
11
12
14
Stromlaufplan
Heizung/Heater
SXB.SSG-03014.00
Blatt 1
1 Bl.
Datum 17.01.2012
Bearbeiter M.Zeeh
Geprüft M.Zeeh
Ersatz durch:
Ersatz für:
Ursprung:
Änderung Datum Name Norm

13.5.9 Option H12
Sound enclosure fan motor wiring plan

13.5.9.1 Manufacturer SODECA

Three-phase motor connection

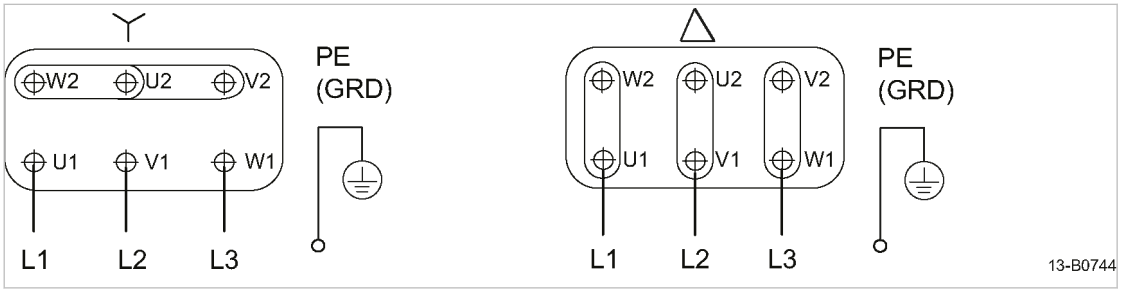


Fig. 47 Three-phase motor connection

Single-phase motor connection

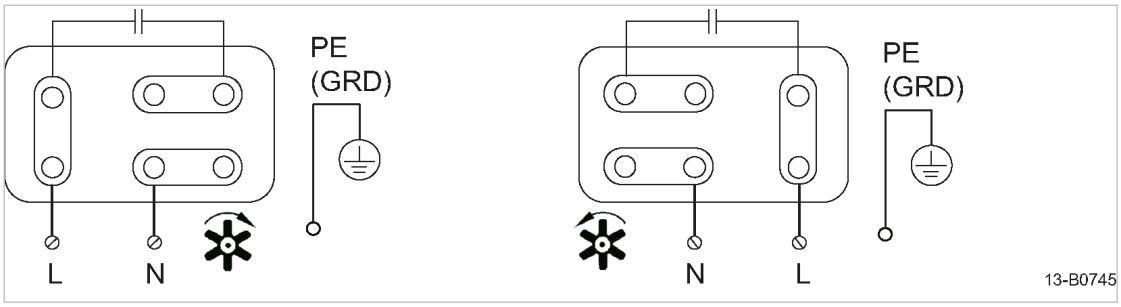


Fig. 48 Single-phase motor connection

13.6 Project planning data